Adding Drone-Specific Tasks to the O*NET Database: Initial Identification of Emerging Tasks using ChatGPT

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Introduction

This paper describes a pilot project focusing on the use of ChatGPT as an initial input source of information for identifying emerging task statements within a particular topic or content area. Lessons learned and methodologies developed around the use of ChatGPT within a previous O*NET project were leveraged (Lewis & Morris, 2024). The pilot focused on work performed using "drones" or "uncrewed aerial vehicles," an emerging technology that is becoming more pervasive in the world of work (GAO, 2021; Lotfi, 2022; World Economic Forum, 2024). The methodology and results of the study are presented. Potential future implementation is discussed.

*O*NET Task Information*

The Occupational Information Network (O*NET) is a comprehensive system developed by the U.S. Department of Labor that provides information on over 900 occupations within the U.S. economy. This information is maintained in a publicly available database (National Center for O*NET Development, 2025). To keep the database current, the National Center for O*NET Development (hereafter referred to as "the Center") is involved in a continual data collection process to identify and maintain current information on the characteristics of workers and occupations.

Each occupation in the O*NET-SOC taxonomy contains information on occupation-specific elements such as occupation title, description, alternate titles, tasks, technology skills, and tools; the Content Model describes these elements in greater detail. Task lists consist of a series of statements that describe the work performed in terms of specific actions, the object of the actions, work outputs or products, and technology, procedures, or materials used to perform work (Gatewood & Feild, 1987). Within the current O*NET 29.2 Database (National Center for O*NET Development, 2025) all 923 data-level occupations have a task listing, leading to 18,750+ task statements.

To ensure the task lists are current and reflect changing aspects of the world of work (e.g., new types of technology), Emerging Tasks are gathered from job incumbents and occupational experts. In addition to providing ratings on several attributes (i.e., relevance, importance, and frequency), respondents also are encouraged to suggest new tasks (i.e., write-in statements) that they perform, but are not included in the current task statement list. These write-in statements are the primary input for Emerging Tasks identification. During each annual analysis cycle, write-in statements collected are processed. Analysts carefully review new write-in statements, looking for consensus across multiple incumbents/experts and making informed judgments about whether a combined, formatted statement warrants inclusion as a new task for the occupation. If a new task is identified as an Emerging Task for an occupation, it is included in the next O*NET data collection cycle for that occupation. Respondents then validate the new statement whereby statements rated as relevant by 25% or more of incumbents/experts in the collection cycle are retained. This data-driven approach ensures that current and accurate information is available within the O*NET websites (e.g., O*NET OnLine and My Next Move), database, and web services, supporting multiple potential use cases

(e.g., educational planning, career exploration, career guidance, job search, organizational placement, research and application development). For a detailed description of the current Emerging Task identification process, see Klein et al. (2025).

This pilot project explored the development of a supplemental source to job incumbent and occupational expert write-in tasks for identifying emerging tasks and augmenting existing task listings. Instead of a by-occupation approach, the supplemental approach would focus on a topic or content area that cuts across multiple occupations. Similar to the current process, newly identified tasks would be included in future data collection cycles where respondents representing occupations would validate the new statements and also populate information about the statements (e.g., importance and frequency).

*Drone Information within the O*NET Database*

A drone is any powered aerial vehicle that does not carry a human operator on board (Flying, 2024). More formally, a drone can be referred to as an unmanned aerial vehicle (UAV), uncrewed aerial vehicle (UAV), or unmanned aircraft system (UAS) (FAA, 2024; FAA, 2025; Gillis, 2025). The use of drones is an emerging technology that is becoming more pervasive in the world of work (GAO, 2021; Lotfi, 2022; World Economic Forum, 2024).

A review of the O*NET database revealed that it had a wide variety of drone-related job tiles or "alternate titles" linked to multiple occupations (e.g., *Drone Software Development Engineer, Drone Operator, Commercial Drone Technician*). However, specific, drone-related task statements describing the use of this emerging technology to perform these occupations were not included.

The evidence for the growing prevalence of drone technology across workplace settings, along with the lack of drone-specific tasks within the O*NET database, led to its selection as the topic area for the current pilot project.

ChatGPT

The recent increased ease and public access to generative Artificial Intelligence (AI), including large language models (LLMs), such as Generative Pre-Trained Transformers (GPTs), has led to much speculation and research on how these types of tools will impact the world of work (Carbonero et al., 2023; Chui, et al., 2023; Eloundou et al., 2023; Felton et al., 2023a; Felton et al., 2023b; Hatzius, 2023; Oschinski et al., 2024; World Economic Forum, 2023). One prevalent example of this type of tool is ChatGPT developed by OpenAI and launched for public use on November 30, 2022 (OpenAI, 2022). OpenAI also developed an API version of the generator (Brockman et al., 2020). In the Industrial-Organizational Psychology field there has been much discussion on how to potentially leverage ChatGPT within the field's work processes, in addition to using it within research studies (Cannon, 2023; Harper, 2023a; Harper, 2023b; Schmidt & Biermeier-Hanson, 2023; Trupulse, 2023). A common theme is to use ChatGPT to generate "data-driven insights" on questions, challenges, goals, and needed decisions

that prior to ChatGPT's availability would have been costly, time consuming, and/or potentially not possible.

In 2024, the Center explored the use of ChatGPT to provide data-driven insight within the process of identifying professional associations linked to occupations for inclusion in O*NET Sources of Additional Information (SAI) (Lewis & Morris, 2024). Use of OpenAI's ChatGPT and API as input sources for supplementing the by-occupation listings of related professional associations proved to be successful. 1,800+ new professional association to occupation linkages across a sample of 100 occupations were added to the SAI database, including 375+ new associations. The study also led to many valuable lessons learned to inform future implementations of ChatGPT within other areas of information development, including how to effectively develop prompts and use model parameters that facilitate the integration of the extensive information available within the O*NET database to lead to better initial returns. However, the process also demonstrated that the returns were indeed insights or "leads," rather than final results. Review, verification, and formatting of the discovered, potential association linkages and additions by trained occupational analysts was needed prior to making the information suitable for publication.

The success and lessons learned from the SAI study were the impetus for this pilot project. The goal was to develop a process to harness the data-driven insights provided by ChatGPT as an initial input source for the identification of emerging task statements within a particular area of focus in the world of work, this time being emerging drone technology. The process would use ChatGPT to generate potential or "candidate" drone-specific emerging task statements. Then trained occupational analysts would review the candidate statements, and if retained, format and standardize the proposed new task statements. Lastly, a pool of Subject Matter Experts (SMEs) would review and validate the analysts' proposed tasks, providing judgments on the relevance and importance of the tasks to the performance of the linked occupation.

Methodology

This section describes the three-step process used to add drone-specific emerging task statements to the O*NET database.

Step 1: Identifying Emerging Task Statements Candidates

This step identified initial listings of emerging task statements linked to occupations using OpenAI Chat Completions API (OpenAI, 2023). The API version supports text-based exchanges like ChatGPT, but offers more customizability. Practical advantages for our project existed. Prompt templates were available that could provide results (i.e., task statements, topic field) in a machine-readable format. In addition, we could program an automated process for running prompts and large batches of occupational titles/codes. While the API was offered as a fee-for-service, a cost examination revealed a low-cost burden (under $40.00 in total).

Sample

The 923 data-level occupations in the O*NET-SOC 2019 Taxonomy (Gregory et al., 2019) were included. For a listing of the occupations, see: Occupations in the O*NET Data Collection Plan. The description and task statement listing for each of the occupations were obtained from the O*NET 28.0 Database (National Center for O*NET Development, 2023).

API Script

The prompt template and parameters were set for the API. For the detailed prompts and script used, see Appendix A[1].

Parameter settings included:

- Model = gpt-4 (gpt-4-0613)
- Temperature (Creativity) = .5[2]

The prompt template included:

- O*NET-SOC occupation code, title, and description
- Full task statement listing
- The directive:
    - *List additional tasks performed by workers in this occupation, not covered in the list above. Focus on new and emerging trends and developments within the occupation. Select additional tasks based on those that will have the biggest impact on the work performed, or will be most commonly performed by workers.*
- A directive to populate an optional "topic" field

API Returns

Between 7 and 15 potential emerging task statements were identified for each of the 923 occupations processed, leading to a total of 9,366 candidates (averaging 10.14 per occupation) across all topic fields. The topic field was used to identify occupations with one more suggested task statements related to drones. Occupational analysts reviewed the full listing of topics and selected the drone-related topics below:

- Agricultural Drones
- Autonomous Systems

[1] The script is also available from our GitHub repository along with sample input data.
[2] The Temperature parameter was set to .5 (below the default, median setting of 1) based on the goal to achieve a narrower, condensed listing of task statement candidates to review and validate rather than generating excessive numbers of statements that were potentially of off-topic suggestions (i.e., less "guessing").

- Drones
- Drone Detection
- Drone Footage
- Drone Inspection
- Drone Management
- Drone Operation(s)
- Drone Photography
- Drone Surveillance
- Drone Technology
- Drone Videography
- Drones and Autonomous Vehicles
- Drones and Robotics
- Unmanned Aircraft Systems (UAS)

Within the API returns, there were 57 occupations linked to a drone-related topic. A review of drone-related alternate titles in the O*NET database led to the identification of three additional occupations. For a listing of the 60 selected occupations see Appendix B (Occupations Identified for Drone-Specific Task Review). A total of 612 task statements were linked to the selected occupations. While each occupation had at least one of the candidate statements linked to a drone topic, many of the statements were not (e.g., linked to “Cybersecurity” or “CPR” or “3D Printing”). A screening of the candidate statements, based on a linkage to topics at least theoretically related to drones or the presence of drone-related language within the statements, resulted in 89 candidate statements being selected for further review. An additional 14 candidate statements outside the selected occupations were selected due to the presence of drone-related language, for an overall total of 103 candidate task statements across 72 occupations.

Step 2: Reviewing Candidate Drone-Specific Emerging Tasks

This step involved the: 1) review of candidate task statements, and 2) development of a proposed listing of drone-specific emerging tasks additions to be validated by Subject Matter Experts (SMEs) in the next step of the process.

Review

Two trained occupational analysts independently reviewed the 103 drone-specific, emerging task statement candidates for the following:

1. Drone related;
2. Redundancy with a current task in the linked occupation’s task listing;
3. Likelihood performed by the linked occupation;
4. Level of specificity;
5. Practical or face valid; and
6. Contains proprietary language.

Results

After discussing and reconciling rating difference across the two analysts, 41 statements were removed. The remaining statements were then screened and revised, if needed, to ensure consistency, clarity, and precision based on the task statement development guidelines outlined in Dierdorff and Norton (2011). The addition of one new drone-specific task statement was proposed for 60 occupations. The revision of one existing task statement to include added drone-related content was proposed for two occupations. For a listing of the 62 proposed drone-specific task statements included in the next step of the process, see Appendix C (Proposed Drone-Specific Task Statements).

Step 3: Validating Proposed Drone-Specific Emerging Tasks via Subject Matter Expert (SME) Review

This step involved the review of the proposed drone-specific emerging tasks by Subject Matter Experts (SMEs) to help ensure they are valid additions to the O*NET Database. Once added to the O*NET Emerging Tasks Database, the statements will be incorporated within occupation-specific data collection cycles where job incumbent or occupational expert (OE) respondents will further validate the new statements and also populate information about the statements (e.g., importance and frequency).

Participants

A total of 12 Subject Matter Experts (SMEs) in the field of drone technology or uncrewed/unmanned aircraft systems use and operation were identified from the Federal Aviation Administration's (FAA) Unmanned Aircraft Systems Collegiate Training Initiative (UAS-CTI). The participants were split into four groups to each review and provide group consensus ratings and feedback on 15-16 of the proposed statement additions.

Review Process

Review workbooks were created that had the following information on each of the 15-16 assigned occupations:

- The proposed new or revised drone-specific task statement
- Occupation Title and Description
- Sample of Reported Job Titles for the occupation
- Similar (related) occupations

Each group was asked to review the provided information and to make team consensus ratings on the following:

1) Rate the relevance of the proposed task to the performance of the occupation:

- *Yes, currently relevant*
- *Not yet, but likely within 5 years*
- *No, performed by workers in a different occupation*
- *No, not valid or practical*
- *Unsure*

2) Rate how important the proposed task is (will be) to the performance of the occupation:
    - *Not important*
    - *Somewhat Important*
    - *Important*
    - *Very important*
    - *Extremely important*
    - *Unsure*

The groups were also given the opportunity to make notes or suggestions related to each proposed new or revised task.

Results

The four workbooks were completed, leading to SME input and review of all 62 proposed drone-specific emerging task statements.

A majority (56 out of 62) statements were rated *"currently relevant."* A small number (4 out of 62) were rated *"not yet, but likely within 5 years."* The remaining tasks (2 out of 62) were rated *"no, performed by workers in a different occupation."* A majority of statements were rated *"very important" or "extremely important"* (51 out of 62), with the overall range between 2 *("somewhat important")* to 5 *("extremely important"),* and an average rating of 4.39. Five suggested task statement revisions were provided. Lastly, guidance based on industry trends was provided on the use of the term *"uncrewed"* instead of *"unmanned."*

The SME input led to the following decisions:

- Four tasks rated *"somewhat important"* were dropped. This included both tasks that SMEs indicated were *"performed by workers in a different occupation,"* one occupation that was rated *"currently relevant,"* and one that was rated *"not yet, but likely to be performed within 5 years."*

- Three remaining tasks rated "*not yet, but likely to be performed within 5 years*" were tabled for future consideration.

- Five task statements were updated based on the expert provided revisions.

- Six task statements were edited to adhere to the guidance on the use of the term

"uncrewed."

- A total of 53 new drone-specific emerging task statements and two revised, existing task statements with newly added drone content were identified for publication.

Results

The described three-step process led to the update of 55 occupation task listings with validated, drone-specific task statements. See Appendix D (Published Drone-Specific Task Statements). During the O*NET 29.3 database release (May, 2025), the statements will be added to the O*NET Emerging Tasks Database. The statements will also be incorporated within future occupation-specific data collection cycles where job incumbent or occupational expert (OE) respondents will further validate the new statements and also populate information about the statements (e.g., importance and frequency). The three tabled task statements will be reconsidered for inclusion by SMEs in 1-2 years.

Conclusion and Future Implementation

This pilot project focusing on the use of ChatGPT as an initial input source of information for identifying emerging task statements within a particular topic or content area was successful. The OpenAI API proved to be an effective, efficient method for gathering initial data-driven insights. Drone-specific emerging task candidates were identified via ChatGPT, reviewed and processed by occupational analysts, and then validated by Subject Matter Experts (SMEs). The three-step process led to the update of task listings for 55 occupations. Importantly, the use of "drones" or "uncrewed aerial vehicles," an emerging workplace technology, will now be better represented within the O*NET Database.

The process and lessons learned can serve as a guideline for use in future implementations within a different topic or emerging content/technology area, providing a supplemental input source for maintaining the currency of O*NET task information. We anticipate the ability to further refine the initial ChatGPT step based on likely new and expanded parameters and features available for use in this very rapidly evolving AI and LLM world.

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Appendix A: GPT Prompts and Scripting

Prompts were delivered to the OpenAI API from a Node.js script, included in full below. The script, along with an input data file covering the occupations and task statements referenced in the original prompts, may be downloaded from our GitHub repository:

https://github.com/onetcenter/gpt-suggest-tasks

After defining the prompt templates and other settings, the script performs the following steps:

- Prepare an output Excel file in which to write the API results
- Read the list of occupations and related information (description, task statements) from an input Excel file. For each occupation:
  - Create the prompt by populating the template
  - Call the API to receive suggested task statements as a JSON array
  - Write each suggested statement, along with the occupation info and other metadata, into the output file (skipping any entries already returned for this occupation)
- Return the completed Excel file as program output

```
'use strict'
import XlsxPopulate from 'xlsx-populate'
import axios from 'axios'
import sleep from 'sleep-promise-native'

const model = 'gpt-4-0613'
const inputTokenCost = 0.00003
const outputTokenCost = 0.00006

const promptTemplate1 = `The O*NET-SOC occupation [[code]] "[[title]]" has the following
definition:

[[desc]]

Task statements for this occupation include:

[[tasklist]]

List additional tasks performed by workers in this occupation, not covered in the list above.
Focus on new and emerging trends and developments within the occupation. Select additional
tasks based on those that will have the biggest impact on the work performed, or will be most
commonly performed by workers.

Format the list as a JSON array, with the fields: topic, statement. The field "topic" is
optional.`
const n1 = 1
const temp1 = 0.5

function fillTemplate (template, substitutions)
{
```

```
  const replacer = (match, p1, offset, string) => {
    if (Object.hasOwn(substitutions, p1))
      return substitutions[p1]
    return match
  }
  return template.replaceAll(/\[\[(\w+)\]\]/g, replacer)
}

async function callChat (prompt, n, temp, history = [])
{
  const data = {
    model: model,
    n: n,
    temperature: temp,
    messages: history.concat({ role: 'user', content: prompt })
  }
  return await call_axios({
    url: 'https://api.openai.com/v1/chat/completions',
    method: 'POST',
    data: data,
    timeout: 120000,
    maxRedirects: 0,
    headers: { Authorization: `Bearer ${process.env.OPENAI_TOKEN}` }
  }, 3)
}

async function call_axios(config, retries) {
  let err = undefined
  for (let i = 0; i < retries; i++) {
    try {
      const response = await axios(config)
      if (response.status == 200) {
        return response.data
      } else {
        err = `Received error code ${response.status}`
      }
    } catch (error) {
      if (error.response) {
        err = `Received error code ${error.response.status}`
        console.error(error.response.data)

      } else if (error.request) {
        err = `No response`
        // console.error(error.request)
      } else if (error.message) {
        err = `Failed with reason "${error.message}"`
      }
    }
    await sleep(250)
  }
  throw new Error(`Call to ${config.url} failed: ${err}`)
}

async function readToBuffer (stream) {
  let bufchunks = []
  for await (const chunk of stream) {
    bufchunks.push(chunk)
  }
  return Buffer.concat(bufchunks)
}
```

```
;
(async () => {
  let inputTokens = 0
  let outputTokens = 0
  let occsProcessed = 0
  let specificModel = model

  const xout = await XlsxPopulate.fromBlankAsync()
  const sheet0 = xout.sheet(0)
  sheet0.name('Tasks')
  for (const col of 'ABCDEFG'.split('')) {
    sheet0.column(col).style({ fontFamily: 'Times New Roman', fontSize: 12, wrapText: true,
verticalAlignment: 'top' })
  }
  sheet0.row(1).style({ bold: true, verticalAlignment: 'bottom' })
  sheet0.column('A').width(12).style({ horizontalAlignment: 'right' })
  sheet0.column('B').width(20).style({ horizontalAlignment: 'right' })
  sheet0.column('C').width(60).style({ horizontalAlignment: 'left' })
  sheet0.column('D').width(60).style({ horizontalAlignment: 'left' })
  sheet0.column('E').width(60).style({ horizontalAlignment: 'left' })
  sheet0.column('F').width(12).style({ horizontalAlignment: 'right' })
  sheet0.column('G').width(12).style({ horizontalAlignment: 'right' })
  sheet0.cell('A1').value([
    [ 'OID', 'O*NET-SOC Code', 'O*NET-SOC Title',
      'Task Topic', 'Task Statement',
      'Prompt Number', 'Response Number',
    ]
  ])
  sheet0.range('A1:G1').style({ fill: 'ffff99', border: 'thin' })

  const sheet1 = xout.addSheet('Parameters')
  for (const col of 'AB'.split('')) {
    sheet1.column(col).style({ fontFamily: 'Times New Roman', fontSize: 12, wrapText: true,
verticalAlignment: 'top' })
  }
  sheet1.column('A').width(40).style({ horizontalAlignment: 'right' })
  sheet1.column('B').width(80).style({ horizontalAlignment: 'left' })
  sheet1.range('A1:B5').value([
    [ 'Model', model ],
    [ 'Prompt 1 - Template', promptTemplate1 ],
    [ 'Prompt 1 - N (Responses)', n1 ],
    [ 'Prompt 1 - Temperature (Creativity)', temp1 ],
    [ 'Total Cost', 0 ],
  ])
  sheet1.range('A1:A5').style({ bold: true, fill: 'ffff99', border: 'thin' })

  const outRows = []

  const xin = await XlsxPopulate.fromDataAsync(await readToBuffer(process.stdin))
  for (const sheet of xin.sheets()) {
    for (const row of sheet.usedRange().cells()) {
      const oid = parseInt(row[0].value())
      if (!oid) {
        continue
      }
      const onetSocCode = row[1].value().toString().trim().replace(/\s+/g, ' ')
      const onetSocTitle = row[2].value().toString().trim().replace(/\s+/g, ' ')
      const onetSocDescription = row[3].value().toString().trim().replace(/\s+/g, ' ')
      const onetSocTaskList = row[4].value().toString().trim()

      console.warn(`Processing ${onetSocCode} - ${onetSocTitle}`)
```

```
      const substitutions = {
        code: onetSocCode,
        title: onetSocTitle,
        desc: onetSocDescription
      }
      if (true) {
        const taskArray = onetSocTaskList.split(/\r?\n/)
        let taskList = ''
        for (let i = 0; i < taskArray.length; ++i) {
          substitutions[`task${i + 1}`] = taskArray[i].trim().replace(/\s+/g, ' ')
          taskList = '* ' + taskArray[i].trim().replace(/\s+/g, ' ') + '\n'
        }
        substitutions[`tasklist`] = taskList
      }

      const seenStatements = {}

      const prompt1 = fillTemplate(promptTemplate1, substitutions)
      const result1 = await callChat(prompt1, n1, temp1)
      occsProcessed++
      specificModel = result1.model
      inputTokens += result1.usage.prompt_tokens
      outputTokens += result1.usage.completion_tokens

      for (let i = 0; i < result1.choices.length; ++i) {
        try {
          const mdata = JSON.parse(result1.choices[i].message.content)
          for (let etask of mdata) {
            if (!Object.hasOwn(seenStatements, etask.statement)) {
              outRows.push([ oid, onetSocCode, onetSocTitle, etask.topic ?? 'none',
etask.statement, 1, i + 1 ])
              seenStatements[etask.statement] = true
            }
          }
        } catch (e) {
          console.warn(`Could not parse output from GPT (prompt 1, choice ${i})`)
        }
      }
    }
  }

  sheet0.cell('A2').value(outRows)
  sheet1.cell('B1').value(`${model} (${specificModel})`)
  sheet1.cell('B8').value('$' + Number.parseFloat((inputTokens * inputTokenCost) +
(outputTokens * outputTokenCost)).toFixed(2).toString())
    process.stdout.write(await xout.outputAsync())

})().catch(err => {
  console.error(err)
  process.exitCode = 1
  process.exit()
})
```

Appendix B: Occupations Identified for Drone-Specific Task Review

O*NET-SOC Code	O*NET-SOC Title
11-3071.00	Transportation, Storage, and Distribution Managers
11-9021.00	Construction Managers
13-1081.01	Logistics Engineers
15-1252.00	Software Developers
17-1012.00	Landscape Architects
17-1021.00	Cartographers and Photogrammetrists
17-1022.00	Surveyors
17-1022.01	Geodetic Surveyors
17-2011.00	Aerospace Engineers
17-2021.00	Agricultural Engineers
17-2051.00	Civil Engineers
17-2051.01	Transportation Engineers
17-2151.00	Mining and Geological Engineers, Including Mining Safety Engineers
17-2171.00	Petroleum Engineers
17-3011.00	Architectural and Civil Drafters
17-3021.00	Aerospace Engineering and Operations Technologists and Technicians
17-3022.00	Civil Engineering Technologists and Technicians
17-3024.00	Electro-Mechanical and Mechatronics Technologists and Technicians
17-3029.01	Non-Destructive Testing Specialists
17-3031.00	Surveying and Mapping Technicians
19-2099.01	Remote Sensing Scientists and Technologists
19-4012.01	Precision Agriculture Technicians
19-4071.00	Forest and Conservation Technicians
19-4092.00	Forensic Science Technicians
19-4099.03	Remote Sensing Technicians
27-2012.05	Media Technical Directors/Managers
27-4011.00	Audio and Video Technicians
27-4021.00	Photographers
27-4031.00	Camera Operators, Television, Video, and Film
27-4032.00	Film and Video Editors
29-2042.00	Emergency Medical Technicians
29-2043.00	Paramedics

O*NET-SOC Code	O*NET-SOC Title
33-1021.00	First-Line Supervisors of Firefighting and Prevention Workers
33-2022.00	Forest Fire Inspectors and Prevention Specialists
33-3021.00	Detectives and Criminal Investigators
33-3021.02	Police Identification and Records Officers
33-3031.00	Fish and Game Wardens
33-9093.00	Transportation Security Screeners
33-9099.02	Retail Loss Prevention Specialists
43-5021.00	Couriers and Messengers
45-2011.00	Agricultural Inspectors
45-2091.00	Agricultural Equipment Operators
45-4021.00	Fallers
47-2021.00	Brickmasons and Blockmasons
47-2031.00	Carpenters
47-3016.00	Helpers--Roofers
47-5032.00	Explosives Workers, Ordnance Handling Experts, and Blasters
47-5081.00	Helpers--Extraction Workers
49-2021.00	Radio, Cellular, and Tower Equipment Installers and Repairers
49-2091.00	Avionics Technicians
49-2095.00	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay
49-9061.00	Camera and Photographic Equipment Repairers
49-9071.00	Maintenance and Repair Workers, General
51-9151.00	Photographic Process Workers and Processing Machine Operators
53-2011.00	Airline Pilots, Copilots, and Flight Engineers
53-2012.00	Commercial Pilots
53-2021.00	Air Traffic Controllers
53-2022.00	Airfield Operations Specialists
53-5031.00	Ship Engineers
53-6051.01	Aviation Inspectors

Appendix C: Proposed Drone-Specific Task Statements

O*NET-SOC Code	O*NET-SOC Title	Proposed Task Statement
11-3071.00	Transportation, Storage, and Distribution Managers	Coordinate the use of drones and autonomous vehicles for efficient and cost-effective delivery of goods.
11-9021.00	Construction Managers	Use drone technology for site inspections and progress monitoring, ensuring accurate and timely project completion.
13-1041.04	Government Property Inspectors and Investigators	Use emerging technologies, such as drones, for remote or automated inspections.
13-1051.00	Cost Estimators	Use remote sensing technologies or drones to evaluate site conditions when in-person visits are not feasible.
13-1081.01	Logistics Engineers	Evaluate the use of technologies, such as global positioning systems (GPS), radio-frequency identification (RFID), route navigation software, drone or robotic technology, or satellite linkup systems, to improve transportation efficiency.
17-1012.00	Landscape Architects	Use drone technology to survey large areas and gather accurate topographical data.
17-1021.00	Cartographers and Photogrammetrists	Use drone technology to capture high-resolution images and data for map creation and updating.
17-1022.01	Geodetic Surveyors	Determine orientation of tracts of land, including position, boundaries, size, and shape, using theodolites, electronic distance-measuring equipment, satellite-based positioning equipment, drones, land information systems, or other geodetic survey equipment.
17-2011.00	Aerospace Engineers	Develop and test autonomous systems for unmanned aerospace vehicles.
17-2021.00	Agricultural Engineers	Use agricultural drones for crop monitoring, irrigation management, and pest control.
17-2051.00	Civil Engineers	Use drone technology for site surveying, inspection, and monitoring of infrastructure projects.

O*NET-SOC Code	O*NET-SOC Title	Proposed Task Statement
17-2051.01	Transportation Engineers	Develop plans for integration of drone technology into transportation systems for purposes such as delivery of goods or traffic monitoring.
17-2151.00	Mining and Geological Engineers, Including Mining Safety Engineers	Use drone technology for aerial surveys and inspections of mining sites to enhance safety and efficiency.
17-2171.00	Petroleum Engineers	Use drone technology for aerial surveying and monitoring of drilling sites.
17-3011.00	Architectural and Civil Drafters	Use drone technology to capture aerial views and topographical data for civil engineering projects.
17-3021.00	Aerospace Engineering and Operations Technologists and Technicians	Operate, test, and troubleshoot unmanned aerial systems, commonly known as drones, to ensure optimal performance.
17-3022.00	Civil Engineering Technologists and Technicians	Operate drones for site surveying and inspection, providing detailed aerial views of project sites.
17-3024.00	Electro-Mechanical and Mechatronics Technologists and Technicians	Program and calibrate drones for specific missions or tasks, ensuring proper functionality and performance.
17-3029.01	Non-Destructive Testing Specialists	Operate drones for remote inspection of large or hard-to-reach structures, such as wind turbines, bridges, or tall buildings.
17-3031.00	Surveying and Mapping Technicians	Use drone technology to capture aerial images or videos for creating detailed and accurate maps.
19-1023.00	Zoologists and Wildlife Biologists	Use advanced technologies, such as GIS, remote sensing, and drone technology, for wildlife tracking, habitat mapping, and population studies.
19-2099.01	Remote Sensing Scientists and Technologists	Develop protocols and procedures for integrating drone-based remote sensing data into existing geospatial databases.
19-4012.01	Precision Agriculture Technicians	Operate drone technology to capture aerial imagery and data for crop monitoring and analysis.

O*NET-SOC Code	O*NET-SOC Title	Proposed Task Statement
19-4071.00	Forest and Conservation Technicians	Operate and manage drone technology for aerial surveys and mapping, wildlife monitoring, and forest health assessments.
19-4092.00	Forensic Science Technicians	Operate drones to capture aerial footage or photographs of crime scenes for further analysis.
19-4099.03	Remote Sensing Technicians	Operate remote sensing equipment on drones to collect data in areas that are difficult to access or require high-resolution imagery.
27-2012.05	Media Technical Directors/Managers	Coordinate the use of drone technology for aerial filming and photography.
27-4011.00	Audio and Video Technicians	Operate drones for aerial videography and photography during live events or for pre-recorded material.
27-4021.00	Photographers	Operate drones to capture aerial photographs and videos, following all regulatory guidelines.
27-4031.00	Camera Operators, Television, Video, and Film	Operate drones to capture aerial or unique angle footage for film, television, or video productions.
29-2042.00	Emergency Medical Technicians	Coordinate with drone operators for delivery of emergency medical supplies in hard-to-reach areas.
29-2043.00	Paramedics	Operate or coordinate with unmanned aerial vehicles (drones) for delivery of emergency medical supplies or for patient assessment in hard-to-reach areas.
33-1021.00	First-Line Supervisors of Firefighting and Prevention Workers	Deploy and monitor drones for aerial surveillance and assessment of fire situations.
33-2022.00	Forest Fire Inspectors and Prevention Specialists	Operate drones to monitor and assess fire conditions, track fire progress, and identify safe access points for firefighters.
33-3021.00	Detectives and Criminal Investigators	Operate drones for aerial surveillance or to gather evidence from difficult to reach locations.
33-3021.02	Police Identification and Records Officers	Use drone technology for aerial photography and videography of crime scenes.

O*NET-SOC Code	O*NET-SOC Title	Proposed Task Statement
33-3031.00	Fish and Game Wardens	Operate drones for surveillance of large areas and tracking of wildlife.
33-9021.00	Private Detectives and Investigators	Use advanced technology, such as drones, GPS trackers, and surveillance cameras, to facilitate investigations.
33-9099.02	Retail Loss Prevention Specialists	Use drone technology for surveillance and loss prevention.
37-3012.00	Pesticide Handlers, Sprayers, and Applicators, Vegetation	Use new technology and equipment, such as drones or GPS systems, to apply pesticides more accurately and efficiently.
43-5021.00	Couriers and Messengers	Operate drones for delivery of small packages in designated areas.
45-2011.00	Agricultural Inspectors	Use drone technology for aerial inspections of large agricultural areas.
45-2091.00	Agricultural Equipment Operators	Operate drones to monitor crop health, growth and pest infestations, and apply targeted treatments.
45-3031.00	Fishing and Hunting Workers	Operate and maintain drone technology for aerial surveillance of hunting and fishing areas.
45-4021.00	Fallers	Operate drones to assess the health and position of trees in difficult to reach areas.
45-4022.00	Logging Equipment Operators	Operate remote-controlled logging machines and drones for dangerous or hard-to-reach tasks.
47-2021.00	Brickmasons and Blockmasons	Use drone technology to inspect and assess the condition of tall structures.
47-2031.00	Carpenters	Use drones for site surveying and to inspect hard-to-reach areas of a structure.
47-5032.00	Explosives Workers, Ordnance Handling Experts, and Blasters	Operate drones for aerial survey of blast sites and for post-blast damage assessment.
49-2021.00	Radio, Cellular, and Tower Equipment Installers and Repairers	Use drone technology to inspect towers and antennas for damage or maintenance needs.

O*NET-SOC Code	O*NET-SOC Title	Proposed Task Statement
49-2091.00	Avionics Technicians	Perform installation, testing, adjustment, and repair of avionics equipment in unmanned aerial vehicles, such as drones.
49-2095.00	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	Use drones for inspection of high-voltage lines and other hard-to-reach equipment.
49-9061.00	Camera and Photographic Equipment Repairers	Repair and calibrate drone cameras and equipment for aerial photography and videography.
49-9071.00	Maintenance and Repair Workers, General	Use drones for inspecting roofs, gutters, and other hard-to-reach areas of buildings.
53-2011.00	Airline Pilots, Copilots, and Flight Engineers	Operate and navigate unmanned aerial vehicles (UAVs) or drones for cargo transportation.
53-2012.00	Commercial Pilots	Operate unmanned aerial vehicles (UAVs) or drones for various commercial purposes, such as aerial photography, surveying land and structures, or monitoring wildlife.
53-2021.00	Air Traffic Controllers	Monitor and control drone traffic in assigned airspace.
53-2022.00	Airfield Operations Specialists	Monitor and manage the operation of drones within the airport airspace to ensure safe aircraft operations.
53-5021.00	Captains, Mates, and Pilots of Water Vessels	Oversee the use of drones for inspection and maintenance of hard-to-reach parts of the vessel.
53-5031.00	Ship Engineers	Use drone technology for ship inspections, maintenance, or other tasks.
53-6051.01	Aviation Inspectors	Inspect unmanned aircraft systems, such as drones, to ensure compliance with safety and operation regulations.
53-7073.00	Wellhead Pumpers	Conduct regular inspections of equipment using drones or other advanced technology.

Appendix D: Published Drone-Specific Task Statements

O*NET-SOC Code	O*NET-SOC Title	Published Task Statement
11-3071.00	Transportation, Storage, and Distribution Managers	Direct the use of drones and autonomous vehicles for efficient and cost-effective delivery of goods and inventory management.
11-9021.00	Construction Managers	Direct how drone technology is used for site inspections and progress monitoring, ensuring accurate and timely project completion.
13-1041.04	Government Property Inspectors and Investigators	Use emerging technologies, such as drones, for remote or automated inspections.
13-1051.00	Cost Estimators	Use remote sensing technologies or drones to evaluate site conditions when in-person visits are not feasible.
13-1081.01	Logistics Engineers	Evaluate the use of technologies, such as global positioning systems (GPS), radio-frequency identification (RFID), route navigation software, drone or robotic technology, or satellite linkup systems, to improve transportation efficiency.
17-1012.00	Landscape Architects	Use drone technology to survey large areas and gather accurate topographical data.
17-1021.00	Cartographers and Photogrammetrists	Use drone technology to capture high-resolution images and data for map creation and updating.
17-1022.01	Geodetic Surveyors	Determine orientation of tracts of land, including position, boundaries, size, and shape, using theodolites, electronic distance-measuring equipment, satellite-based positioning equipment, drones, land information systems, or other geodetic survey equipment.
17-2011.00	Aerospace Engineers	Develop and test autonomous systems for uncrewed aerospace vehicles.
17-2021.00	Agricultural Engineers	Use agricultural drones for crop monitoring, irrigation management, and pest control.
17-2051.00	Civil Engineers	Use drone technology for site surveying, inspection, and monitoring of infrastructure projects.

O*NET-SOC Code	O*NET-SOC Title	Published Task Statement
17-2051.01	Transportation Engineers	Develop plans for integration of drone technology into transportation systems for purposes such as delivery of goods or traffic monitoring.
17-2151.00	Mining and Geological Engineers, Including Mining Safety Engineers	Use drone technology for aerial surveys and inspections of mining sites to enhance safety and efficiency.
17-2171.00	Petroleum Engineers	Use drone technology for aerial surveying and monitoring of drilling sites.
17-3011.00	Architectural and Civil Drafters	Use drone technology to capture aerial views and topographical data for civil engineering projects.
17-3021.00	Aerospace Engineering and Operations Technologists and Technicians	Operate, test, and troubleshoot uncrewed aerial systems, commonly known as drones, to ensure optimal performance.
17-3022.00	Civil Engineering Technologists and Technicians	Operate drones for site surveying and inspection, providing detailed aerial views of project sites.
17-3024.00	Electro-Mechanical and Mechatronics Technologists and Technicians	Program and calibrate drones for specific missions or tasks, ensuring proper functionality and performance.
17-3029.01	Non-Destructive Testing Specialists	Operate drones for remote inspection of large or hard-to-reach structures, such as wind turbines, bridges, or tall buildings.
17-3031.00	Surveying and Mapping Technicians	Use drone technology to capture aerial images or videos for creating detailed and accurate maps.
19-1023.00	Zoologists and Wildlife Biologists	Use advanced technologies, such as GIS, remote sensing, and drone technology, for wildlife tracking, habitat mapping, and population studies.
19-2099.01	Remote Sensing Scientists and Technologists	Develop protocols and procedures for planning and executing drone-based remote sensing missions to ensure they comply with standards and requirements.
19-4012.01	Precision Agriculture Technicians	Operate drone technology to capture aerial imagery and data for crop monitoring and analysis.

O*NET-SOC Code	O*NET-SOC Title	Published Task Statement
19-4071.00	Forest and Conservation Technicians	Operate and manage drone technology for aerial surveys and mapping, wildlife monitoring, and forest health assessments.
19-4092.00	Forensic Science Technicians	Operate drones to capture aerial footage or photographs of crime scenes for further analysis.
19-4099.03	Remote Sensing Technicians	Operate remote sensing equipment on drones to collect data in areas that are difficult to access or require high-resolution imagery.
27-2012.05	Media Technical Directors/Managers	Coordinate the use of drone technology for aerial filming and photography.
27-4011.00	Audio and Video Technicians	Operate drones for aerial videography and photography during live events or for pre-recorded material.
27-4021.00	Photographers	Operate drones to capture aerial photographs and videos, following all regulatory guidelines.
27-4031.00	Camera Operators, Television, Video, and Film	Operate drones to capture aerial or unique angle footage for film, television, or video productions.
33-1021.00	First-Line Supervisors of Firefighting and Prevention Workers	Deploy and monitor drones for aerial surveillance and assessment of fire situations.
33-2022.00	Forest Fire Inspectors and Prevention Specialists	Operate drones to monitor and assess fire conditions, track fire progress, and identify safe access points for firefighters.
33-3021.00	Detectives and Criminal Investigators	Operate drones for aerial surveillance or to gather evidence from difficult to reach locations.
33-3021.02	Police Identification and Records Officers	Use drone technology for aerial photography and videography of crime scenes.
33-3031.00	Fish and Game Wardens	Operate drones for surveillance of large areas and tracking of wildlife.
33-9021.00	Private Detectives and Investigators	Use advanced technology, such as drones, GPS trackers, and surveillance cameras, to facilitate investigations.
33-9099.02	Retail Loss Prevention Specialists	Use drone technology for surveillance and loss prevention.

O*NET-SOC Code	O*NET-SOC Title	Published Task Statement
37-3012.00	Pesticide Handlers, Sprayers, and Applicators, Vegetation	Use new technology and equipment, such as drones or GPS systems, to apply pesticides more accurately and efficiently.
45-2091.00	Agricultural Equipment Operators	Operate drones to monitor crop health, growth and pest infestations, and apply targeted treatments.
45-3031.00	Fishing and Hunting Workers	Operate and maintain drone technology for aerial surveillance of hunting and fishing areas.
45-4022.00	Logging Equipment Operators	Operate remote-controlled logging machines and drones for dangerous or hard-to-reach tasks.
47-2021.00	Brickmasons and Blockmasons	Use drone technology to inspect and assess the condition of tall structures.
47-2031.00	Carpenters	Use drones for site surveying and to inspect hard-to-reach areas of a structure.
47-5032.00	Explosives Workers, Ordnance Handling Experts, and Blasters	Operate drones for aerial survey of blast sites and for post-blast damage assessment.
49-2021.00	Radio, Cellular, and Tower Equipment Installers and Repairers	Use drone technology to inspect towers and antennas for damage or maintenance needs.
49-2091.00	Avionics Technicians	Perform installation, testing, adjustment, and repair of avionics equipment in uncrewed aerial vehicles, such as drones.
49-2095.00	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	Use drones for inspection of high-voltage lines and other hard-to-reach equipment.
49-9061.00	Camera and Photographic Equipment Repairers	Repair and calibrate drone cameras and equipment for aerial photography and videography.
49-9071.00	Maintenance and Repair Workers, General	Use drones for inspecting roofs, gutters, and other hard-to-reach areas of buildings.

O*NET-SOC Code	O*NET-SOC Title	Published Task Statement
53-2012.00	Commercial Pilots	Operate large scale uncrewed aerial vehicles (UAVs) or drones for various commercial purposes, such as aerial photography, surveying land and structures, or monitoring wildlife.
53-2022.00	Airfield Operations Specialists	Monitor and manage the operation of drones within the airport airspace to ensure safe aircraft operations.
53-5021.00	Captains, Mates, and Pilots of Water Vessels	Oversee the use of drones for inspection and maintenance of hard-to-reach parts of the vessel.
53-5031.00	Ship Engineers	Use drone technology for ship inspections, maintenance, or other tasks.
53-6051.01	Aviation Inspectors	Inspect uncrewed aircraft systems, such as drones, to ensure compliance with safety and operation regulations.
53-7073.00	Wellhead Pumpers	Conduct regular inspections of equipment using drones or other advanced technology.