WILLIAM P. POSTON

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ACTIVE U.S. DEPARTMENT OF DEFENSE SECRET SECURITY CLEARANCE

PROFESSIONAL SUMMARY

Software and data engineer pursuing dual master's degrees in Computer Science and Data Science, with experience in geospatial machine learning, high-performance computing, full-stack development, and mission-critical satellite communications testing. Demonstrated technical leadership across defense, NASA, university research, and award-winning software projects.

TECHNICAL SKILLS

Programming: Python, JavaScript, Java, PHP, HTML, CSS, SQL
Machine Learning & Data: Pandas, NumPy, scikit-learn, PCA, clustering, data visualization, neural networks
Geospatial & Research Computing: Google Earth Engine, Rasterio, GeoTIFF, Google Cloud Storage, Linux, HPC, Slurm
Web & Software Engineering: React, Node.js, Laravel, REST APIs, Git, GitHub, GitLab, CI/CD, TDD, Agile/Scrum
Cloud & Tools: AWS, Azure, MATLAB, Figma, VS Code, containerized environments

RESEARCH EXPERIENCE

Graduate Research Assistant | *Old Dominion University Research Foundation* | Norfolk, VA **May 2026 - Present**

- Develop scalable geospatial machine-learning pipelines using Google AlphaEarth Foundations' 64-dimensional satellite embeddings to analyze land and environmental patterns across Hampton Roads, Virginia.
- Process 64-band, 10-meter-resolution raster imagery through Google Earth Engine and ODU's Waterfield high-performance computing cluster, including export validation, spatial clipping, mosaicking, quality assurance, and sample generation.
- Constructed an analysis-ready dataset containing 99,986 geospatial observations and 71 variables, including spatial metadata and 64 learned embedding dimensions.
- Apply exploratory analysis, principal component analysis, k-means clustering, and geospatial visualization to identify and interpret structure in high-dimensional satellite data.
- Build reproducible Python workflows using Rasterio, NumPy, Pandas, scikit-learn, Google Cloud Storage, Git, and containerized computing environments.

PROFESSIONAL EXPERIENCE

Software and Systems Engineer Intern | *KBR* **Jun 2025 - Aug 2025**

- Supported test and evaluation of satellite communications systems for the U.S. Air Force and Space Force Nuclear Command, Control, and Communications (NC3) program.
- Analyzed system behavior and test results to identify failure modes and evaluate communications reliability under simulated operational conditions.
- Collaborated with multidisciplinary engineering and analysis teams in a mission-critical, security-controlled environment.

LunaSat Engineering Team Lead | *NASA Artemis II Project* **Jun 2022 - Jun 2023**

- Led a 10-member multidisciplinary engineering team developing an experimental lunar satellite sensor system for the Artemis II program.
- Coordinated hardware-software integration and designed, programmed, and tested sensors measuring seismic activity, temperature, gravity, and magnetic fields.
- Validated end-to-end collection and transmission of spacecraft sensor data to a simulated Mission Control environment.

Software Engineering Intern | *CoVA CCI* **Jan 2022 - May 2022**

- Developed a subscription-based browser extension that protects users from malware and other cyber threats while promoting safe browsing practices.
- Worked autonomously within a peer development team to translate stakeholder needs into a functional web product.
- Won First Place in the 2022 INNOVATE Cyber Competition and secured continued stakeholder sponsorship for system operations.

SELECTED PROJECTS

Crossworder | *Personal Project* **Nov 2024 - Present**

- Developed a constraint-based backtracking engine that solves and generates crossword puzzles using ENWiktionary, a dictionary containing more than 10 million entries.
- Implemented candidate filtering and recursive search logic to satisfy intersecting-letter constraints and reduce the solution space.
- Deployed interactive web version URL: https://willpatpost.github.io/Crossworder
- Codebase URL: https://github.com/Willpatpost/Crossworder

ItinerEase | *ODU Software Engineering Capstone* **Jan 2025 - Dec 2025**

- Developed a personalized travel-planning application that generates day-by-day itineraries using scraped destination data and generative AI.
- Designed a hybrid recommendation engine that ranks activities according to user preferences before supplying structured candidates to an OpenAI-powered generation workflow.
- Contributed within an Agile capstone team using iterative development, version control, and stakeholder-driven requirements.
- Codebase URL: https://github.com/jandraarias/f25-Copper
- Deployed website URL: https://willpatpost.github.io/Itiner-Ease

Handwritten Digit Recognizer | *Personal / Academic Project* **Aug 2024 - Dec 2024**

- Implemented a feedforward neural network and training pipeline from scratch in Python without relying on a deep-learning framework.
- Created a Tkinter interface that lets users draw digits, perform inference, train custom models, and load saved model parameters.
- Codebase URL: https://github.com/Willpatpost/Digit-Recognizer
- Deployed website URL: https://willpatpost.github.io/Digit-Recognizer

EDUCATION

Master of Science, Computer Science | *Old Dominion University* | Norfolk, VA **May 2027**

- GPA: 4.00/4.00

Master of Science, Data Science | *Old Dominion University* | Norfolk, VA **May 2027**

- Concentration: Artificial Intelligence and Machine Learning | GPA: 4.00/4.00

Bachelor of Science, Computer Science | *Old Dominion University* | Norfolk, VA **Dec 2025**

- Minor in Data Science | Perry Honors College Graduate | GPA: 3.55/4.00

Associate of Science, Computer Science | *Paul D. Camp Community College* **Dec 2022**

- GPA: 3.89/4.00

HONORS & AWARDS

- First Place, 2022 INNOVATE Cyber Competition
- Perry Honors College Graduate, Old Dominion University