Christopher Jellen

Software Engineer II at Microsoft

Seattle, WA

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Education

United States Naval Academy — *Annapolis, MD*

BS Honors Applied Mathematics | BS Mechanical Engineering | **GPA: 4.00** — *Jun 2016 - May 2020*

- Graduated ranked 1st in my class by Academic Order of Merit.
- Trident Scholar: A Machine-Learning Model for Prediction of Optical Turbulence in Near-Maritime Environments

Work Experience

Microsoft — *Redmond, WA*

Microsoft Defender Infrastructure - SWE II — *2022 - Present*

- As a member of the infrastructure team, I develop, deploy, and maintain the shared services which support the Microsoft Defender ecosystem.
- Optimized service telemetry flow to make log data and traces available more quickly and at higher fidelity to reliability and operations teams.
- Developed tools for long term cloud storage and compute demand forecasting.
- **Core Technical Skills:** `C#`, Go, Kubernetes, Docker, Python, PowerShell

The MITRE Corporation — *Seattle, WA*

Software Engineering | Machine Learning Engineering — *2020 - 2022*

- Supported The Veteran's Benefits Administration, the United States Marine Corps, and Intelligence Community as an engineer and leader, building a strong understanding of customer needs, clear communication, and strategic planning.
- Developed AI/ML-informed analytic prototypes for quality assurance at scale.
- **Core Technical Skills:** Python, PyTorch, R, Postgres, mongoDB, git, CentOS

CALDERA: Automated Adversary Emulation — *Remote*

Product Lead | Engineering Manager — *2020 - 2022*

- Product lead for CALDERA's cyber ontological mapping capability, interfaced with a range of DoD sponsors to ensure wide interoperability and wider use of CALDERA as a cyber analytic tool.
- Led a team of four (3 engineers, 1 data scientist) to develop novel offensive cyber planning capabilities and data management solutions.
- Developed a strong understanding of agile project management and continuous delivery for a range of end-users and sponsors.
- **Core Technical Skills:** Python, JavaScript, Docker, AWS, Ansible, bash scripting

Projects

Explore GitHub — *github.com/cdjellen/discover*

A multi-container app to traverse GitHub as a social graph. Built in Go and Svelte. Try it out at `https://explore-github.com`.

National Data Buoy Center API — *github.com/cdjellen/ndbc-api*

An open-source Python API for NDBC, served on PyPi.

- A Python API for querying oceanographic and atmospheric data from the National Data Buoy Center.
- The package includes full test coverage, powered by PyTest, as well as extensive usage documentation.

National Association of Corrosion Engineers Design Competition — *Houston, TX*

A semi-autonomous robot for computer-vision enabled corrosion detection and mapping. — *Aug 2018 - Apr 2019*

- Led a team of five students and engineers to plan, design, integrate, build, and test a semi-autonomous corrosion detection robot.
- Presented update briefings to the Office of Naval Research (ONR), communicating the project road-map, finances, and technical specifications.
- Placed 1st in the competition through the development and application of a CNN-based corrosion detection model.

Publications

Machine learning informed predictor importance measures in maritime optical turbulence. — *Applied Optics 59, 6379-6389 (2020)*

Leveraged ensemble tree-based ML methods to gain insights into the predictive power of meteorological data on local optical turbulence, as measured by C_n^2.

Editor's Choice

Hybrid Optical Turbulence Models. — *Applied Optics 62 (18), 4880-4890*

Developed hybrid machine learning models for predicting local C_n^2 using real-time climactic data, demonstrating an improvement over prior literature models for application in the near-maritime environment, especially with few measurements. A preprint is available at `https://arxiv.org/pdf/2310.17829v1.pdf`.