

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

Software Engineer II - Microsoft Defender

2022 - Present

- As a member of the developer platform team, I designed, built and accelerated shared release and observability tooling for the Microsoft Defender ecosystem.
- Scaled and optimized k8s clusters to increase microservice reliability.
- Automated configuration and release validation across multiple dedicated cloud environments.
- **Core Technical Skills:** C#, Go, Kubernetes, Docker, Python, Azure

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

github.com/cdjellen/discover.

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>.