

Christopher Jellen

SECURITY SOFTWARE ENGINEERING WITH WRAITHWATCH

Seattle, WA

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Work Experience

Wraithwatch

Seattle, WA

AI/ML Engineering | Security Engineering

2024 - Present

- Architected the core AI/ML platform, enabling agentic systems to perform autonomous security assessments by correlating real-time telemetry events against complex system configurations.
- Owned the end-to-end cloud infrastructure (K8s, Terraform, AWS), leading the design of a resilient architecture that decreased product downtime by 8x and supported millions of entities under analysis.
- Partnered directly with foundational customers to translate ambiguous security needs into concrete requirements for AI integration, creating a tight feedback loop that directly influenced the core product roadmap.

Microsoft

Redmond, WA

Software Engineering

2022 - 2024

- Developed infrastructure and service release automation tooling, enabling the Defender platforms continued migration to k8s.
- Scoped and delivered shared release and observability tooling for the Microsoft Defender ecosystem.
- Led development and evaluation of forecasting models for cloud storage and compute demand to aid in long-term strategic planning.

The MITRE Corporation (CALDERA)

Seattle, WA

Engineering Manager

2020 - 2022

- As product and technical lead, defined the roadmap for CALDERA's ontological mapping capability. Drove adoption across multiple DoD sponsors by architecting for interoperability, resulting in its integration into multiple new government entities.
- Led a team of four (3 engineers, 1 data scientist) to develop novel offensive cyber planning capabilities and data management solutions, resulting in a software patent and new opportunities for Government partnership.
- Supported The Veteran's Benefits Administration, the United States Marine Corps, and Intelligence Community as an engineer and consultant, delivering deep technical analyses in support of intelligence automation.

Core Technical Skills

Python, Go, Kubernetes, Docker, AWS, Azure, PyTorch, Jax

Projects

Air Quality Forecast

Operational 12-hour air quality forecasting for the United States. Check out live forecasts updated each hour at air-quality-forecast.fly.dev

Discover Open Source

Traverse GitHub as a social graph. Built in Go and Svelte. Try it out at discover-open-source.fly.dev.

National Data Buoy Center API

Programmatic access to NDBC data services; the API has over 25,000 downloads and is available at github.com/cdjellen/ndbc-api.

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.

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

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 .

Editors 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..