Noah Rizika

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QUALIFICATIONS

- **Hard Skills**: C/C++, Golang, Python, FreeRTOS, Distributed Systems, IP/TCP, Linux, Bash, Wireshark, GDB
- **CI/CD & Git**: Experienced in agile workflows, automated testing, and integrating production-ready code
- **Full-Stack Developer**: Led data pipeline design and development to expand database and improve UX
- **Machine-Level Engineer**: Built networked embedded systems with multithreading and sensor fusion
- **Computer Vision Engineer**: Created image classification ML model for Dartmouth biology research

EDUCATION

Middlebury College September 2021 - May 2024

Bachelor of Arts, Biochemistry / Computer Science focus Middlebury, VT

- GPA: 3.82, **Summa Cum Laude**, College Scholar all semesters (highest academic honor)
- Coursework: Software Development, Computer & Network Architecture, Systems Programming & Security
- Leadership: Climbing Club **President** and **Coach**, Water Polo **Captain**, Community Friends and Sports PT **Volunteer**
- Awards: Recipient of Middlebury's Cross-Cultural Community Engagement Grant

AWS Machine Learning Engineer Nanodegree (Udacity) October 2023

- Hard Skills: AWS (Lambda, IAM, S3), Cloud Management, Hyperparameter Tuning, Step Functions, PyTorch

Security+ (CompTIA) Expected June 2025

- Hard Skills: Network Security, Zero Trust, Social Engineering, Application & Cryptographic Attacks, Security Infrastructure

EXPERIENCES

Assistant Computer Science Instructor Middlebury, VT

Computer Science Department, Middlebury College September 2024 - Present

- **Facilitates instruction** of 8 computer science courses, providing comprehensive support to CS students regarding assignments, course materials, and personal study guidance
- Conducts 15+ hours of weekly office hours, delivering individualized assistance for introductory to advanced coursework in languages including **Python**, **C**, **Java**, and **Javascript**
- Orchestrates the student course assistants program, **benefiting over 200+ students** by competently managing 30+ student course assistants with 50+ weekly help sessions

Full Stack Developer Remote

Atom Grants September 2024 - March 2025

- **Led development** of web scraping scripts utilizing **OpenAI APIs** and **Cron Jobs** to automate data collection and processing from **1,200+ foundations**, generating formatted JSON for over **25,000 grants**
- **Delivered production-ready code** at a **fast-paced startup** and managed customer data security
- Hard Skills: **Next.js**, Tailwind, **TypeScript/Javascript**, Supabase (**PostgreSQL**), **Git**, RESTful APIs, Postman

Data Analyst and Developer Middlebury, VT

Eric Bleich MPoMP Lab, Middlebury College September 2023 - May 2024

- Analyzed **600,000+ articles** on a small team with advanced textual analysis techniques in Python to discover emerging AI politicization and changes in the use of climate crisis terminology
- Expanded viable data via Python, using the PyPdf library to convert PDFs into custom-formatted .txt files
- Hard Skills: **Python**, Pandas, NumPy, **Matplotlib**, Textual and Quantitative Analysis Workflows

Machine Learning Engineer Remote

Bing He Biological Research Lab, Dartmouth College August 2023 - October 2023

- Architected a computer vision model to classify cell stage development and expedite data collection
- **Built entire ETL pipeline** using limited, unsupported image data
- Hard Skills: **AWS** (SageMaker, S3, CloudWatch), PyTorch, OpenCV, **Python**, AI Image Classification

PROJECTS (https://github.com/noahrizika)

Semi-Autonomous Drone Swarm

- **Stabilization algorithms** leverage **sensor fusion** and **PID controller** data to enhance flight in ESP32-based drones
- Drone coordinates relayed via MQTT and ESP-NOW using **multithreading**, **FreeRTOS**, and **OOP** in **C++**

Multiprocessing & Performance for Systems Engineering

- Wrote a fully-functional, **multiprocessing Linux** shell in **C** including piping and I/O redirection
- Optimized low-level system calls for **improved performance** and **memory management**

Sonar Room-Mapping Robot

- Sonar radar system communicates robot's positional coordinates, AI-generated movement instructions, and sonar data with a host via Bluetooth using **C++** and **Python**
- Renders a 2D map from the sonar data using **Matplotlib**, SciPy, and an AI clustering algorithm

Outdoor Rock Climbing Website

- Guided rock climbers to new climbing areas by building a full stack **React.js** web app with Google Maps and RESTful weather APIs
- Managed and displayed college climbing events in real time by connecting **PostgreSQL** to a **Node.js** backend
- Created a novel rock climbing grading system by analyzing mixed climbing data using Python's Pandas library
- Easily apply the grading system to a user-specified rock climb using a friendly UI

Chatbot for Academic Research Connections

- Built a **prompt-engineered** AI assistant for learning about experts who study a user-specified academic field
- Developed a full stack **Next.js** web app using **Typescript**, **Tailwind**, **Supabase** and OpenAI's API

PUBLICATIONS

- Lessons from Special Operation Forces for Competition Across the Continuum: Special Report for the Office of the Chairman, West Point Press
- What's the deal with terms like "greenhouse effect," "global warming," "climate change," and "the climate emergency"? (Jun 2024), Yale Climate Connections & Irish Environment (republication)

RESEARCH_EXPERIENCES

- **Biochemistry Research Assistant** (Feb - Mar 2025): Investigated methods for the cloning, expression and purification of gasdermin proteins
- **Data Science Researcher** (Sep 2024 - Mar 2025): Analyzed media trends of AI political polarization and evolving usage of environmental terminology
- **Neuroscience Research Assistant** (Jan - May 2023): Studied attentional control and satiety impacts on odor perception
- **Food Systems Qualitative Data Analyst** (Jul - Sep 2023): Analyzed key themes and stakeholders using expert interviews and presentations on global food system transformation with NVivo
- **Ecological Research Assistant** (Sep 2020 - Apr 2021): Classified animals in 2000+ camera trap images using Timelapse software in a Windows virtual machine

CONFERENCES

- **West Point Social Sciences Seminar Rapporteur** (Feb 2025) "States, Societies, and Security In the 21st Century"