

Kyle Rood

Senior Full Stack Software Engineer

Masters in Computer Science, Concentration in AI + Sustainability

kylerood16@gmail.com

Washington D.C.

<https://rooddood.github.io/website/>

<https://www.linkedin.com/in/kyle-rood/>

Work Experience and Skills

Full Stack Implementation Engineer, *Strategic Solutions Research*

Dec. 2024- Now

Skills: Python / React / HuggingFace / BERT/ AWS / Wordpress

- Architected and developed advanced data visualization tools in React, **reducing client reporting time and improving data accessibility**
- Designed and implemented scalable Python data ingestion pipelines, **automating client report generation and reducing manual processing**
- Developed and deployed custom Topic Modeling and Sentiment Analysis models using BERT via HuggingFace, **increasing the depth of client insights and reducing operational costs**

Full Stack AI Engineer, *Nodus*

Mar. 2025- May 2025

Skills: Python / Docker / Next.JS / Anthropic Claude / MCP

- Architected the technical roadmap for AI agents, **defining the strategic direction + future-state architecture**
- Designed + implemented a **pydantic-AI MCP** server for data orchestration, **improving data retrieval efficiency**
- Integrated a new AI module into an existing Docker/Next.js deployment, **increasing user engagement**

Full Stack AI Engineer, *Hilltop-App*

Feb. 2025- Mar. 2025

Skills: Python / Next.JS / Angular / GCP / OpenAI

- Reworked the UI for a Next.js/Angular application, **improving user experience and increasing engagement**
- Applied prompt engineering to connect legislative data, **automating message generation** with context
- Developed and automated Python testing frameworks, **increasing new integration reliability and reducing manual testing efforts**

Engineering Intern → Full Stack Engineer → Lead Engineer, *Resultid*

Sep. 2021- June 2024

Skills: Python / React / AWS / OpenAI / BERT

- Led + mentored growing team of engineers, establishing agile development practices that **increased feature velocity**
- Designed + built a scalable data science application **processing thousands of documents weekly**
- Trained + hosted custom NLP algorithms on AWS, **increasing model performance + reducing latency**
- Interfaced directly with customers to integrate feedback into features, **resulting in an increase in user retention**

Research Assistant → Lead ML Research Asst., *The George Washington University*

Dec. 2017 - May 2021

Skills: Python, AWS, Computer Vision, Big Data + Databases

- Collaborated on a DARPA project, developing a data-driven solution that **reduced first responder time on-scene**
- Full-Stack development of AMOS, a big data system that **collected + categorized over 1 billion images from thousands of cameras**
- Performed water depth estimation on a flooded city using multiband satellite imagery, **providing critical data for disaster relief efforts**

Python Teaching Assistant, *The George Washington University*

Sep. 2018 - May 2021

Skills: Python, Big Data + Databases, Communication, Teaching

- Designed and delivered curriculum on Python for data analytics, **empowering non-CS students to apply foundational programming concepts** to real-world datasets

- Held regular office hours to provide one-on-one mentorship, **significantly increasing student confidence and comprehension** of complex data analytics concepts

Education

The George Washington University

Masters in Computer Science w/ Concentration in Artificial Intelligence, **GPA: 4.0**

May 2021

Bachelors of Science in Computer Science, Minor in Sustainability, **GPA: 3.7**

May 2020