

# Kyle Rood

Masters in Computer Science, Concentration in AI + Sustainability  
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## Work Experience and Skills

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### Full Stack Implementation Engineer, *Strategic Solutions Research*

Dec. 2024- Now

Skills: Python / React / HuggingFace / BERT / AWS / Anthropic Claude / Wordpress / Writing

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

### Full Stack AI Engineer, *Hilltop-App*

Feb. 2025- Mar. 2025

Skills: Python / Next.JS / Angular / GCP / Gemini / OpenAI / MCP / RAG / LangChain / Prompt Engineering

- Rebuilt UI for a Next.js/Angular application in context-aware AI assistant, improving user experience + engagement
- Applied AI infrastructure (LangChain + RAG) to connect legislative data, automating contextual message generation
- Developed Python testing frameworks to ground agent responses, ensuring accuracy and context relevance

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

Sep. 2021- June 2024

Skills: Python / React / AWS / OpenAI / BERT / Docker / SQL / NoSQL / Git / CI/CD / Leadership

- Led + mentored growing team of engineers, establishing Agile development practices and maintaining high engineering standards using GitHub+AWS workflows (CI/CD)
- Designed + built a scalable data science application leveraging AWS to process thousands of documents weekly
- Trained + hosted custom NLP algorithms on AWS EC2, 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: Research / Python / AWS / Computer Vision / Big Data / SQL / NoSQL (MongoDB)

- 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 / Data Science / Communication / Leadership / Teaching

- Designed + delivered curriculum on Python for data analytics including Numpy, Pandas, and Scikit-learn
- Empowered non-CS students to apply foundational programming concepts to real-world datasets
- Held regular office hours to provide one-on-one mentorship, increasing student confidence + comprehension

## Education

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### 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**

## **Skills Summary**

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**Languages + Technologies:** Python, React, Next.JS, Angular, HTML/CSS, Java, Unity, Unreal Engine

**GenAI & Agents:** Multi-Agent Orchestration (MCP/pydantic-AI), Prompt Engineering, RAG Systems, LLM fine tuning

**Large Language Models (LLMs):** Gemini, Anthropic Claude, GPT, HuggingFace, LangChain

**Core ML/AI:** Natural Language Processing (NLP), Computer Vision, Model Fine-Tuning, Sentiment + Topic Modeling

**AI Models:** BERT, Whisper, DeepSeek

**Data & Databases:** ETL Pipelines, Vector Databases (DocumentDB), NoSQL (MongoDB), data ingestion/scraping

**Cloud & DevOps:** Git/GitHub Workflows (CI/CD), Docker, AWS (Lambda, EC2, CodePipeline, etc.), GC

**Certifications:** Sustainability Minor, SCRUM Master Certified

**Creativity:** Film Photography, Creative writing (novel and script)

**Solving Problems:** Designing + implementing recipes (cooking), Making + selling clothes online + in person

**Community:** Volunteer 3-5 hours per week at local recycling center, saving 50+ lbs. from the dump every day