

Vivek Yanamadula

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Education

Columbia University

New York City, New York

M.S. IN COMPUTER SCIENCE, MACHINE LEARNING TRACK. GPA: 3.8

Sept. 2023 - Dec. 2023

B.A. IN MATHEMATICS, CONCENTRATION IN COMPUTER SCIENCE. GPA: 3.979

Sept. 2019 - May. 2023

- *Honors*: Cum Laude, Dean's List (All Eligible Semesters), Ralph Mabe Scholarship (2022, 2023)
- *Computer Science Coursework*: Intro to Quantum Computing, Intro to Cryptography, Number Theory and Cryptography, Malware Analysis & Reverse Engineering, Intro to Databases, Operating Systems, Computer Graphics, Machine Learning, Natural Language Processing, CS Theory, Advanced Programming, Fundamentals of Computer Systems, Data Structures in Java
- *Mathematics Coursework*: Algebraic Curves, Arithmetic Dynamics, Topology, Modern Algebra I/II, Modern Analysis I, Honors Mathematics A/B

Course Assistant

New York City, New York

COMS W3261: COMPUTER SCIENCE THEORY (2021), COMS 4701: ARTIFICIAL INTELLIGENCE (2022, 2023)

Fall 2021, Fall 2022, Fall 2023

- Presented review sessions to help solidify material covered during the week, held weekly office hours to answer students' questions, managed an online discussion board for student questions, and graded assignments/exams

Work Experience

Amazon Web Services - Marketing Technology & Measurement

New York, New York

SOFTWARE ENGINEER

September 2024 - Present

- Worked on the development of marketing data tools in the Privacy & Identity Experiences team under Ranjith Zachariah
- Built out LLM powered moderation of AWS user profiles, screening for profanity and spam content in usernames and user bios
- Created a system to design and assign community badges to users which can be displayed on public facing AWS websites to highlight AWS related accomplishments
- Key Skills Used: TypeScript, React, GraphQL, AWS CDK, Code Review, Unit Testing

Amazon Web Services - Worldwide Public Sector

Arlington, Virginia

INTERN

Summer 2022, Summer 2023

- Worked on the development of financial tools for the AWS WWPS Innovation Engineering team under Ray Caruso
- 2023: Built an external data harvester, search engine, and AI-enabled natural language analytics platform to track key AWS contract metrics, saving sales team users approx. 8 hrs/wk
- 2022: Designed and created a notification database and email service for a billing tool expected to save Amazon approx. \$7 BN annually
- Key Skills Used: Python, TypeScript, HTML/CSS, AWS CDK, OpenSearch, DynamoDB, QLDB, Code Review, Unit Testing

Inspirit AI

New York City, New York (Remote)

INSTRUCTOR AND GUEST LECTURER

Summer 2021 - Fall 2021

- Taught three two-week summer courses of 15 high schoolers each on fundamentals of AI/ML and led practical coding projects
- Invited back to provide guest lectures in Fall 2021 to over 100 students on robustness in machine learning
- Key Skills Used: Python, Scikit-Learn, Teaching

U.S. Department of Veterans Affairs

New York City, New York (Remote)

INTERN - INTEGRATED VALUE MODEL (IVM)

Summer 2021

- Independently created an approx. 98% accurate NLP recommendation system to automate inputting new directives into the IVM dataset
- Key Skills Used: Python, PyTorch, Pandas, Scikit-Learn, Project Design

Research Experience

Columbia Software Systems Lab

New York City, New York

UNDERGRADUATE RESEARCHER FOR COURSE CREDIT (ADVISOR: DR. RONGHUI GU)

Spring 2023 - Present

- Creating a compiler to efficiently run quantum machine learning algorithms on NISQ quantum computers, utilizing noise adaptive techniques and searching over potential gate transformations for circuit simplification
- Paper titled "Bifrost: Topology-Aware Approximate Compilation of Variational Quantum Algorithms", presented at the American Physiological Society March Meeting and submitted to IEEE Quantum Computing and Engineering 2025 for publication
- Key Skills Used: Python, Qiskit, SciPy, PennyLane, TorchQuantum, Quantum Computing

Skills & Activities

Coding Skills, TypeScript, Python, React, AWS, C, C++, Java, SQL, NoSQL (DynamoDB), MatLab, HTML/CSS/SCSS, PyTorch, Qiskit, Git, Vim, Bash

Languages, English (Native), Spanish (Advanced), German (Intermediate), Telugu (Basic)

Other Affiliations, CU Cyber, Columbia Social Entrepreneurship Club (Consultant), Columbia Undergraduate Mathematics Society, Columbia Poker Club, Columbia Bartending Agency, Phi Gamma Delta