

Vivian Ni

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EDUCATION

Columbia University - School of Engineering and Applied Sciences

B.S in **Computer Science**

New York, NY
Expected May 2027

Relevant Coursework: Multivariable Calculus, Data Structures and Algorithms, Introduction to Java, Discrete Math, Linear Algebra, Advanced Programming

PROFESSIONAL EXPERIENCE

Columbia Build Lab - Perpetua Venture | Software Engineering Intern | New York, NY

Sep 25 - Present

- Building Perpetua: a digital will service that helps grieving families by saving executors and estate lawyers hundreds of hours in asset discovery (e.g., bank accounts, insurance policies, digital subscriptions).
- Co-leading AI workflow development in a fast-paced startup environment, taking end-to-end ownership of ML and LLM system design and implementation

Northrop Grumman Mission Systems | San Diego, CA

Jun 25 - Aug 25

Software Engineering Intern

- Designed and implemented a client-server system using a state machine architecture and the JREAP-C communication protocol.
- Created a Java-based frontend application, improving user interaction and experience, which was integrated into the core C2 software.
- Delivered multiple critical bug fixes using C++ and Java, meeting deadlines to get a build out for the customer.
- Decreased build-time and human error drastically by implementing a CI/CD workflow into a 5-person software team using Jenkins to automate building, testing, and deploying.

Software/Systems Engineering Intern

Jun 24 - Aug 24

- Developed an automation script to verify data integrity using Python Pandas saving 1000+ hours of work.

- Refactored legacy code in a 20-year old program with over 20,000 files. Reduced unused and duplicated code in high-traffic areas to improve performance.
- Played a key role in delivering over 50% of a major system upgrade in compliance with updated MIL-STD requirements, demonstrating proficiency with Link 16 J-Series messages.

Science Internship Program at UCSC | CS and Computational Media Researcher | Santa Cruz, CA

Jun 23 - Aug 23

- Collaborated with UCSC faculty on computational media research focused on educational interfaces.
- Developed a personalized learning tutorial add-on for Blender using Python scripting and presented findings at a symposium.
- Conducted extensive literature reviews and designed user studies comparing traditional learning methods with the custom tutorial to evaluate its impact on user learning outcomes.

PROJECTS

DevFest Hackathon - Look Book

Feb 25

- Developed Look Book, an all-in-one fashion app for users to share outfits and link clothing sources.
- Collaborated with a team in a 24-hour hackathon with 250+ participants from 60+ universities.
- Designed and developed a mobile app, utilizing Figma, Swift, and Xcode to produce a MVP and fullstack app features.

LEADERSHIP AND PROFESSIONAL DEVELOPMENT

Columbia Organization of Rising Entrepreneurs | Operating Committee Leader

Sep 25 - Present

- Growing and connecting Columbia University's largest hub for entrepreneurship.
- Communicating with founders, companies, and VCs to host large and small events for students.

STEM Accelerates Girls' Excellence (SAGE) | CEO

Sep 22 - Jan 24

- Hosted seasonal sessions, 7 unique subjects (eg. Python, Genetics, Marine Science) per session spanning 6 weeks.
- Led a diverse team of 30+ students & 260+ instructors across 8 countries in hosting STEM classes for 1500+ girls.
- Boosted online engagement by more than 300% and gained 6K+ followers within a month, driving international growth by expanding chapters to 3 new countries (Brazil, Egypt, and Canada).

CyberPatriot | Captain

Oct 20 - Jan 24

- Established my HS's only all-girls CyberPatriot team which placed top 1% at XIV national semifinals (5K+ teams, 20,000+ competitors). Built on the team's success to recruit 25+ girls for my CyberPatriot team.
- Developed competition resources, taught cybersecurity fundamentals, and developed scripts.

TECHNICAL SKILLS

Languages & Frameworks: Java, Python, JavaScript, HTML/CSS, C, Flask, Spring Boot, Thymeleaf, SQL, React

Tools: Git/GitHub, Docker, AWS (EC2, S3), Jenkins, SQLite, MongoDB, Pandas, Firebase, Linux, Visual Studio Code, Figma, ML, LLMs, Batch/Powershell scripting, Link16 (MLSTD 6016 G), Microsoft Excel, PowerPoint, Word

Development Practices: Agile/SCRUM, CI/CD, Unit Testing, Test-Driven Development (TDD), Version Control, REST APIs, UI/UX Design, AI Model Integration, AI Workflow Automation.

Soft Skills: Problem Solving, Collaboration, Leadership, Creativity, Community Building, Native Mandarin