

Michael He

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EDUCATION

University of Virginia — Charlottesville, VA

Bachelor of Science in Computer Science, Minor in Data Science

Relevant Courses: Data Structures and Algorithms, Computer Systems and Organization, Discrete Math and Theory, Linear Algebra, Software Engineering, Artificial Intelligence, Computer Vision, Machine Learning, Reinforcement Learning, Natural Language Processing

Aug 2022 – May 2026

Dean's List, GPA: 3.94

SKILLS

Languages: Python (5 years), Java (6 years), JavaScript/TypeScript (4 years), HTML/CSS (4 years), SQL (1 year)

Frameworks: React.js/Next.js, Node.js, Tailwind CSS, Spring Boot, Material-UI, JUnit, express, Django, PyTorch, scikit-learn

Developer Tools: GitHub, Bedrock, Postman, Datadog, SQLite3, DynamoDB, S3, EC2, Figma, PostgreSQL, Lambda, MySQL

Soft Skills: Communication skills, Teamwork, Time management, Problem-solving, Motivated, Active listener, Disciplined, Attentive

EXPERIENCE

University of Virginia

Technical Interviewing Workshop President

- Led a workshop **3 times a week** for UVA students by walking through common data structures and algorithm leetcode problems.
- Facilitated **whiteboarding sessions** to collaboratively work through system design challenges and tradeoffs.
- Provided **actionable tips** for each stage of the interview process based on personal experience and industry best practices.
- Assisted **over 20 students** to get their dream internship (Meta, Amazon, Capital One, Roblox, Bloomberg, Zocdoc, Riot Games).

Amazon Web Services

Software Development Engineer Intern

- Designed and implemented an Digital Asset Management system automating image categorization for the AWS Documentation website using AWS SageMaker, processing **50,000 images**.
- Reduced manual categorization effort by **80%**, saving approximately 40 hours per week compared to human-only classification.
- Improved documentation consistency and customer experience by standardizing images across **329 AWS services** using a prompt engineered AWS Bedrock model.
- Identified and reported a severity-2 security vulnerability in the documentation pipeline, collaborating with senior engineers to resolve the vulnerability within 48 hours.

GOBankingRates

Software Engineer Intern

- Ensured high performance with a **99.97% uptime** by maintaining a mission-critical internal codebase used by **over 2000 banks**.
- Delivered **10+ new features** and improvements by working with cross-functional teams.
- Reduced time to find a error by **75%** by utilizing **Datadog** to monitor and report errors for kubernetes cron jobs.
- Developed and deprecated **3 API endpoints** for image generation using **Express.js**, optimizing functionality.
- Engaged in daily stand ups and regular one-on-one meetings with the manager following an **agile methodology**.
- Employed **Terraform** for infrastructure as code to manage AWS CloudFront caching policies, enhancing content delivery efficiency.

Runway

Software Engineer Intern

- Built a platform connecting early-stage startups with college students for freelance work engaging **over 2000 college students**.
- Contributed to Runway's place in the **top 25** startups to watch in the 'Silicon Valley of the South' and a **\$5 million evaluation**.
- Managed and built **over 20 user interface components and pages** using Next.js for the job board, student and business profiles.
- Generated **5+ Spring Boot REST API routes** hosted on an EC2 instance to organize over **200 business projects**.
- Accomplished a **30% improvement** in website loading speed and a **25% increase** in user engagement with desktop and mobile devices by leveraging **DynamoDB and S3** for data retrieval and storage, and utilizing **Tailwind** to create website components.
- Collaborated** with project managers, UI/UX designers, and developers to define project goals, requirements, and timelines.

PROJECTS

Machine Learning Food Recognizer | *ipynb, Python, scikit-learn, keras, tensorflow* | Group Project

- Leveraged the capabilities of scikit-learn to build an effective food recognizer model using a Kaggle dataset in a Jupyter Notebook.
- Preprocessed **101,000 food images** distributed across **101 distinct classes**, ensuring quality input for training and evaluation.
- Achieved a noteworthy test accuracy of **71.70%** with a test loss of **1.1317**, while also securing a top-5 accuracy of **91.31%**.

HooGrades | *Next.js, Tailwind CSS, AWS Lambda, AWS Dynamodb, AWS S3, AWS EC2, OpenAI API* | Hackathon Project

- Developed a full-stack SaaS website using AWS Lambda for the API gateway and Next.js to grade student's homework with AI.
- Improved the website's interactivity and visual appeal by **50%** by integrating Framer Motion to incorporate fluid animations.
- Spearheaded the UI/UX design using Figma for HooGrades and utilized **OpenAI's vision API** to grade students' work.
- Implemented a backend architecture using **Lambda, DynamoDB, S3, and EC2**, ensuring high performance of the platform.

CheapGPT | *Node.js, Discord API, OpenAI API, SQLite3* | Personal Project

- Launched a **Node.js** based Discord bot to allow users to interact with ChatGPT 4 with vision in a discord server setting.
- Continuously maintained** and updated the Discord bot to ensure optimal performance and scalability.
- Generated a **file directory system** when the text exceeded the Discord character limit.
- Implemented commands for users and allowed users to create multiple conversations.