Jimmy Zhang

Email: _____
Mobile: _____

Portfolio: zhangjimmy.com
GitHub: github.com/jimmyzhang2003
LinkedIn: linkedin.com/in/jimmy-zhang03

EDUCATION

Columbia University in the City of New York — New York, New York
Bachelor of Arts in Computer Science — *Sep 2021 - December 2024*
- **GPA**: 4.08/4.00 (Dean's List)
- **Relevant Coursework**: Full-Stack Web Development, Cloud Computing, Machine Learning, Natural Language Processing, Spoken Language Processing, Artificial Intelligence, Deep Learning for Computer Vision, Advanced Programming, Data Structures, Computer Systems, Analysis of Algorithms, CS Theory, Linear Algebra, Discrete Math
- **Activities and Societies**: Upsilon Pi Epsilon (International Computer Science Honor Society), Course Assistant (AI: Fall 2023), Application Development Initiative (Committee), Columbia Undergraduate Science Journal (Editor-in-Chief), Office of Disability Services (Note-Taker), Intramural Volleyball

EXPERIENCE

ICF — Reston, Virginia
Software Engineering Intern — *June 2024 - August 2024*
- Optimized and implemented new features for the data pipelines of America's HIV Epidemic Analysis Dashboard (AHEAD) and a RAG chatbot, focusing on data engineering in Python and PostgreSQL and cloud engineering in AWS.
- Delivered multiple features in Typescript (React and Node.js), including the redesign of AHEAD's ArcGIS map.

Icahn School of Medicine at Mount Sinai — New York, New York
Research Assistant — *December 2019 - Feb 2024*
- First-authored 2 peer-reviewed publications in Nature Communications Medicine and Nature Scientific Reports as a member of Professor Kuan-lin Huang's Computational Omics Lab.
- Spearheaded machine learning studies on the prediction of COVID-19 diagnosis and the prediction of mortality in dementia patients, implementing 4 different machine learning algorithms in Python and leveraging high-dimensional clinical datasets, including over 150,000 rows of longitudinal data taken from the largest Alzheimer's database in the US.

Microsoft + Nuance — Burlington, Massachusetts
Software Engineering Intern — *May 2023 - July 2023*
- Built an iOS application in Swift and SwiftUI showcasing the functionality of the Dragon Ambient eXperience (DAX) Kit, delivered to third-party customers.
- Collaborated with Falcons and Rover teams to implement new features and administer bugfixes for DAX Copilot, Nuance's premier, fully automated AI clinical documentation iOS app.

Memorial Sloan Kettering Cancer Center — New York, New York
Software Engineering Intern — *June 2022 - August 2022*
- Built a command-line interface tool, a scalable plugin system, and a code generator to automate access to MSK resources and code generation for thousands of developers across the Digital, Informatics & Technology Solutions (DigITs) division.
- Worked with 4 software and QA engineers on Team Polaris to design, build, and deploy a clinician-facing Connected Care Dashboard application, focusing on front-end development in React, CI/CD, unit testing, and E2E automation testing.

PROJECTS

- **BiteReview** A microservice-based web application allowing students to view and submit reviews for dishes served at Columbia's dining halls. **Tech**: Python (Flask), Javascript (React.js, Next.js), MySQL, Docker, AWS.
- **DAXKit Showcase App** An iOS application enabling third-party users to produce and upload voice recordings to Microsoft Azure Blob Storage via the DAXKit SDK and verifying whether recordings were successfully uploaded. **Tech**: Swift, SwiftUI.
- **MSK CLI** A command-line interface tool with plugin and code generation functionality for internal use by developers at Memorial Sloan Kettering Cancer Center, reducing overhead time and costs for MSK projects. **Tech**: Typescript, Node.js, oclif.
- **Phonebook App** An iOS application allowing users to create and save contacts, combined with mocked grocery lists and chats. **Tech**: Swift, SwiftUI, Java, Gradle, gRPC.
- **College Email De-Spamifier** A Gmail Add-On that revamps high school students' inboxes, filtering college emails based on user-specified criteria (acceptance rate, tuition, etc.). **Tech**: Python (Django, BeautifulSoup), Google Apps Script, SQLite.

PUBLICATIONS

- **Zhang J**, Song L, Miller Z, Chan G, Huang, KL. Machine learning models identify predictive features of patient mortality across dementia types. *Commun Med* 4, 23 (2024). https://doi.org/10.1038/s43856-024-00437-7
- **Zhang J**, Chen L, Gomez-Simmonds A, Yin MT, Freedberg DE. Antibiotic-Specific Risk for Community-Acquired *Clostridioides difficile* Infection in the United States from 2008 to 2020. *Antimicrobial Agents and Chemotherapy*, 66(12): e01129-22 (2022).https://doi.org/10.1128/aac.01129-22.
- **Zhang J**, Jun T, Frank J, Nirenberg S, Kovatch P, Huang KL. Prediction of individual COVID-19 diagnosis using baseline demographics and lab data. *Sci Rep* 11, 13913 (2021). https://doi.org/10.1038/s41598-021-93126-7

SKILLS

- **Languages**: **(Fluent)** English **(Working Proficiency)** Mandarin Chinese, Spanish
- **Technical Skills**: software development, research, machine learning, data structures and algorithms, writing, editing
- **Technical Languages**: Python, Javascript, Typescript, Swift, Java, HTML/CSS, SQL, R, C, SAS, LaTeX
- **Frameworks and Technologies**: Node.js, React.js, Next.js, Express.js, SwiftUI, UIKit, Flask, MySQL, PostgreSQL, MongoDB, REST, GraphQL, gRPC, Tailwind CSS, PyTorch, Tensorflow, scikit-learn, pandas, matplotlib, numpy
- **Tools**: Amazon Web Services (AWS), Git, GitHub, Azure DevOps, Docker, Postman, Vim, Linux, VS Code, Xcode, ArcGIS