Zachary Cheng

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EDUCATION

Emory University   **Atlanta, GA**
B.S. Computer Science, B.S. Quantitative Sciences – Data Science Concentration   *May 2025*
3.95/4.00 GPA
Relevant Courses: Artificial Intelligence, Machine Learning, Distributed Systems, Database Systems, Data Structures and Algorithms, Computer Architecture, Systems Programming, Physical Computing, Statistical Computing

EXPERIENCE

MongoDB   **New York, NY**
Consulting Engineering Intern   *June 2024 – August 2024*
- Contributed to 8 customer implementation and adoption projects spanning all phases of the application lifecycle
- Optimized a client's database performance, refactoring queries and indexes to decrease CPU utilization by 30%
- Guided a 2TB data migration from MySQL to MongoDB Cloud, optimizing their read-heavy database efficiency
- Wrote bash scripts to migrate database user roles to the cloud, addressing a limitation in MongoDB migration tools

Oracle Cerner   **Kansas City, MO**
Software Engineer Intern   *June 2022 – August 2022*
- Developed RESTful API web services with Ruby on Rails and React.js for a new medical web application
- Added API error handling/logging and wrote RSpec unit tests to streamline user and developer experiences
- Designed initial RDBMS schema designs and MySQL queries to ensure scalability for 600K+ users
- Uplifted and monitored 3 other projects, regularly addressing failed integration builds and outdated dependencies

T-Mobile   **Overland Park, KS**
Business Analyst Intern   *May 2023 – August 2023*
- Led a region-wide vehicle consolidation initiative resulting in 60 repurposed vehicles and $1.2M in repurposed capital
- Enforced a weekly improvement pace for metrics across 23 markets, achieving a nation-leading 99% compliance rate
- Created a Power BI dashboard for automated data collection and real-time reporting using Microsoft Power Automate

Emory Department of Quantitative Theory & Methods   **Atlanta, GA**
Research Assistant   *August 2023 – Present*
- Fetched decades of data using APIs and web scraping to create the first relational database for legislative speeches
- Integrated AWS EC2 into the process to bypass API rate limits and improve data retrieval from weeks to days
- Extracted key information from raw speeches using NLP text analysis techniques to reduce the data size by over 50%

PROJECTS

KeyTake | AI Group Chat Assistant   *GitHub Repository*
Languages/Tools – OpenAI API, MongoDB, Flask, Python, JavaScript, HTML, CSS
- Full-stack web application integrating GroupMe and OpenAI APIs to summarize messages and highlight action items
- Built a 90% accurate classifier by cross-validating possible action items with scikit-learn machine learning models
- Utilized MongoDB for flexible storage and efficient retrieval of various media types to be used by the frontend

GradU | Graduate School Application Resource Forum   *GitHub Repository*
Languages/Tools – Google Cloud Platform, React.js, Flask, Python, PostgreSQL
- Full-stack web application forum for users to share, search, and save graduate school application materials
- Incorporated Flask for profile creation and PostgreSQL for content filtering, ensuring secure data transmission
- Simulated an Agile workflow and launched via GCP to 50+ Emory students to foster personal learning

Spotify Trends and Notes   *GitHub Repository*
Languages/Tools – Spotify API, Node.js, JavaScript, HTML, CSS
- Developed new features for users to view their listening trends, add notes to songs, and share notes alongside playlists
- Implemented OAuth user authentication and session cookies with Express.js to allow users to retain their sessions

ADDITIONAL SKILLS AND INTERESTS

Programming Languages: Java, Python, C, SQL, HTML, CSS, JavaScript
Tools and Frameworks: AWS, Flask, Node.js, React.js, Docker, Jenkins, Selenium, JDBC, MongoDB, Microsoft Office
Extracurriculars: Undergraduate TA, Club Baseball, Kappa Sigma Fraternity, Emory Startups, Hackathons
Interests: Robotics, Generative AI, Fishing, Golf, Electronic Dance Music, Aircraft Piloting, Pokémon GO