Jack Geng

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Education

University of North Carolina at Chapel Hill Aug. 2022 - May 2025

B.S. Computer Science — GPA: 3.99/4.00

- Courses: Algorithms and Analysis, Foundations of Software Engineering, Systems Fundamentals, Data Structures, Software Engineering Practicum, Web Development, Discrete Structures, Machine Learning, Linear Algebra

Experience

iOS Developer Jan. 2024 – May 2025

App Team Carolina — Luminary *Chapel Hill, NC*

- Led end-to-end development of Reports feature ecosystem for *Luminary*, an iOS navigation app tailored for students with mobility limitations, including API integration, reactive data pipeline, and custom map annotation system
- Refractored sheet state handling logic and implemented render optimizations, improving overall UI responsiveness by cutting redundant recomposition and reducing interactive screen render latency from **∼1s to 0.5s**
- Delivered a MVP onboarding flow and integrated it into a broader feature rollout (routing, redesigned UI, quick report entry), aligning first-time user experience with newly introduced capabilities to accelerate user activation

Software Engineer Intern May 2024 – Aug 2024

Bank of America *Charlotte, NC*

- Designed and implemented Terraform IaC modules for Azure Cosmos DB (Graph API), integrating with existing cloud pipelines and reducing average provisioning time by **10%**
- Built a Python internal package automating sprint planning and status reporting across **12** Azure services; integrated interactive CLI with Confluence REST API, improving planning clarity and task tracking efficiency

Data Engineer Intern May – Aug. 2023

Enact Mortgage Insurance *Raleigh, NC*

- Designed and built a Streamlit web application that interacts with Enact One Analytics Model database, facilitating streamlined ETL operations for Data Science Team and **10+** business users
- Optimized data cleansing workflow in Enact One Analytics Model database by implementing Snowflake stored procedure, improving data processing speed by **∼35%**

Projects

Basketball Objects Detection Model | STAR Heel Laboratories

- Designed and implemented AWS Rekognition scripts for automated video analysis by handling API responses, parsing key objects positions (basket, rim, board, and ball) from JSON files filtering **5** frames per **2,000** frames
- Optimized AWS SageMaker image labeling workflow by creating scripts that upload image footages - processed by OpenCV library from **4,000** mins of videos - to S3 bucket and return pre-signed URLs to bucket objects

LLM for Long Video Modeling with Dr. Gedas Bertasius | Undergrad Research Group

- Developed an evaluation metric for tuning videos from YT-1B dataset with uniformly distributed transcripts and filter **24%** video data for Chat GPT to more accurately capture the main gist of storylines and key visual events
- Leveraged GPT-4V to achieve automated large video-text data generation by rating storyline complexity and generating multiple-choice high-level video understanding QA pairs for training

Tonal Tinnitus Therapy Filter Software by C++ | Personal Project

- Built an audio therapy filter based on JUCE that notches tonal tinnitus frequency in audio input, implementing real-time audio processing and personalized therapy in a user-friendly GUI with signal visualization

Skills

Programming Languages: Python, Java, Swift, C/C++, TypeScript, SQL, Objective-C
Frameworks & Tools: Angular, Docker, Git, Kubernetes, PostgreSQL, MongoDB, Cassandra
Data Technologies: Snowflake, Apache Spark, Hadoop, Talend, REST APIs, Streamlit
Certifications: AWS Cloud Practitioner, Azure AZ-104, AZ-900, DP-900, HashiCorp Terraform Associate (003)