Mitchell Young

New York, NY | 828-403-3510 | youngmg3000@gmail.com | young-mitchell | youngmg1995

Skills

Programming Languages: Python, C++, C, TypeScript/JavaScript, Java, Bash, SQL, Scala, MATLAB
Frameworks & Libraries: Numpy, Pandas, TensorFlow, Apache Beam, React, Material-UI, Express, Axios, Flask, Django
Miscellaneous: Machine Learning, Web Development, Prompt Engineering, Parallel Computing, Scientific Computation

Experience

Google Aug 2022 – Present
Software Engineer *San Francisco, CA / New York, NY*

- Worked in health vertical on Search to drive user growth and add quality info to search results page for health-related queries.
- Built a C++ data pipeline that signals which health providers in Google Maps offer virtual care. Pipeline leverages web scraping techniques, a Random Forest ML model, and Flume C++ to scale to ∼10M healthcare POIs.
- Implemented improvements to health-related features across the Search stack including: entry-points to the Lens app, a classifier to remove medical misinformation on the SRP, and user-feedback forms for the Hotlines Onebox.
- Designed python libraries for scaling structured prompting of LLMs while incorporating state-of-the-art techniques such as dynamic few-shotting, CoT reasoning, constrained decoding, etc.
- Led engineering team in the creation of internal tools that use LLMs to automate medical content-reviews, thereby improving the safety of health on Search content and reducing our cost/reliance on human, clinical ratings.

NCSU PICTure Research Group May 2021 – May 2022
Research Assistant *Raleigh, NC*

- Developed a Visual Studio Code extension in TypeScript that allows users to generate code expressions using natural language inputs from the comfort of their text editor.
- Contributed to research to improve the semantic mapping of inputs on the group's NLP tool used in the extension.

Red Ventures Aug 2019 – Oct 2019
Data Engineer *Fort Mill, SC*

- Constructed data pipelines in Scala to move web traffic data from Amazon S3 to Redshift, and wrote SQL code for verifying the integrity of datasets we maintained.

Projects

AI Assisted Peer Assessment | *Python (TensorFlow, Numpy)*

- Fine-tuned the BERT language model to generate NL feedback on student deliverables. Experiments show the model produces feedback similar to human reviews but which contain inaccurate information.
- Programmed a Python web-scraper to extract plain text from the HTML of student Wiki pages and implemented the Cross-Entropy Summarization method for reducing the salient text to a length suitable for the BERT model.

Task Manager | *TypeScript (React.js, Express.js, Material-UI)*

- Created a React web app in Typescript inspired by Gmail for easily creating, storing, and managing my daily tasks.
- Built an asynchronous API using Express to decouple the UI from the backend storage and management of tasks.

Publications

IDE Augmented with Human-Learning Inspired Natural Language Programming May 2022
International Conference on Software Engineering (ICSE) 2022 | [PDF]

Insta-Reviewer: A Data-Driven Approach for Generating Instant Feedback on Students' Project Reports July 2022
International Conference on Educational Data Mining (EDM) 2022| [PDF]

Education

North Carolina State University May 2022
Master of Computer Science (GPA: 4.00 / 4.00) *Raleigh, NC*

University of North Carolina at Chapel Hill May 2017
Bachelor of Science, Applied Math and Physics (GPA: 3.82 / 4.00) *Chapel Hill, NC*

Interests

Ultimate Frisbee, running, flag football, vinyl record collecting, Corgis, Euchre, Texas hold'em, Catan, watching old movies