Kyle Meng

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Skills

Programming Languages: Python, Java, SQL, JavaScript, TypeScript
Frameworks & Technologies: React, Next.js, LangGraph, RESTAPI, Spring Boot
Tools & Platforms: Vite, LangSmith, Figma, Maven, Docker, Vim, Git, Selenium
Databases: MySQL, PostgreSQL, HBase, Supabase, Vector Databases
Data Engineering: ETL/ELT, Data Pipelines, Data Modeling, Hadoop, Airflow, Snowflake, dbt

Experience

AI Engineer   *Toronto, ON*
TalentDirect AI   *June 2024 – Present*

- Spearheaded the creation of a novel conversational AI agent from the ground up, using **LangGraph** to proactively coach users through business idea formulation and automated investment plan generation. This new feature engaged over 100+ beta testers, with **LangSmith** ensuring robust end-to-end tracing
- Developed a responsive and performant frontend using **Next.js** and **React**, and deployed the application on **Vercel** to ensure high availability
- Implemented backend functionalities using **Next.js** API routes and integrated **Supabase** for database
- Designed and maintained robust **ETL/ELT data pipelines** using **Airflow** and **Snowflake**, ensuring efficient data processing and modeling to support AI model training and analytics

Projects

Portfolio Website ⬀   *React, TypeScript, Three.js*

- Developed a desktop-style personal website with **React & TypeScript** frontend and **Spring Boot** backend architecture, implementing responsive design with **TailwindCSS** to ensure optimal display across all devices
- Simulating an operating system interface with file managers, project detail windows, and email composition functionality for an intuitive and creative user experience
- Integrated 3D effects and animations utilizing **Three.js and GSAP** libraries to implement particle backgrounds and smooth transitions, incorporating React Three Fiber framework for personal 3D model displays to enhance visual appeal and site uniqueness

Distributed Campus Network Search Engine   *Java, Hadoop, NLP*

- Constructed a distributed search engine that improved search result relevance by 50% for accessing campus resources through optimized data indexing and retrieval
- Engineered automated web crawler using **Python & Selenium**, boosting data collection efficiency by 20%
- Configured a distributed Linux server environment on VMware, enhancing processing speed
- Optimized data indexing and retrieval by leveraging **Hadoop's MapReduce** framework, improving processing speed by 30%
- Doubled search efficiency by storing **TF-IDF** index tables in **HBase**, reducing query time

E-commerce Data Pipeline   *dbt, Airflow, Snowflake*

- Built an analytics pipeline for an e-commerce business to centralize four main source tables totalling **2 million rows** of data on **Snowflake**, and marketing data into a centralized warehouse, enabling reporting on user behavior, product performance, and campaign effectiveness
- Implemented a **dbt-centric ELT** and dimensional modeling layer orchestrated by **Airflow**, using staging models to clean/standardize raw sources, building reusable dim tables and fact tables, and wiring everything into scheduled Airflow DAGs with automated dbt tests and incremental runs

Education

University of Ottawa   *Sep. 2022 – May. 2024*
Master of Electrical and Computer Engineering   GPA: 9.44/10.0   *Ottawa, ON*

Southwest Petroleum University   *Sep. 2017 – Jun. 2021*
Bachelor of Software Engineering   GPA: 3.49/4.0   *Chengdu, China*

- Excellent Graduation Design Award & 4 Scholarships for Excellent Student