Pai Peng

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A passionate software engineer with a strong foundation in key software engineering principles. I am committed to continuous learning, embracing challenges, and staying abreast of cutting-edge technologies and industry trends. Discover more about me by clicking this link: **https://altman-s.github.io**

Education

The University of Edinburgh, Edinburgh, Scotland — Sep. 2021 – Dec. 2022

M.S. in Computer Engineering | With Merit

Nanjing University of Science and Technology, Nanjing, China — Sep. 2017 – Jun. 2021

B.Eng. in Robotics and Automation Engineering | China National Scholarship 2018 (Top 0.2% national-wide)

Skills

- Programming Languages: Java, C/C++, Python, SQL, Scala, Shell, JavaScript, HTML/CSS, MATLAB
- Technologies & Tools: Git, Unix/Linux, Vim, Docker, MySQL, MongoDB, Apache Spark, Flask, Vue.js, Pandas

Experience

Intropic | London, United Kingdom | *Python, Docker, CI/CD, AWS* — Jul. 2023 – Sep. 2023

Software Engineer Intern https://intropic.io

- Collaborated closely with the Index Rebalance Models team to test their model and data services, which involved writing scripts, analyzing metrics, and preparing comprehensive reports.
- Developed a robust CI/CD pipeline leveraging Slack and GitLab, automating the build and deployment process.
- Configured and deployed data pipeline services within Docker, utilizing AWS EC2 and S3 as the hosting infrastructure.

Projects

Python Frontend for A Query Engine in Pandas | *Python, SQL, Pandas, Git* — May 2022 – Sep. 2022

Individual Project https://github.com/amirsh/pandas-sdql

Brief introduction: An API similar to Pandas API, but achieves a higher performance

- Converted all 22 SQL queries in TPC-H benchmark (covering various data operations) to Pandas functions.
- Implemented some functions similar to Pandas for the query engine, including join(), merge(), groupby(), sum(), avg(), count(), min(), max(), etc.
- Created an API for a new query language (SDQL) with SOLID principles, ultimately enabling it to run at about 100x the speed of the original Pandas.

Full Stack Web Development | *Vue, HTML/CSS, Flask, MongoDB* — Nov. 2021 – Mar. 2022

Team Project https://github.com/Altman-S/NewBee

Brief introduction: Construct a IMDB Movie Search Website from scratch

- Designed a Python web crawler that monitored a movie information website, implemented HTML parse and storage, achieved a fully-automatic web crawler.
- Used Vue framework to write HomePage, ErrorPage, InfoPage and TypePage on the search website.
- Deployed the website with Flask web framework on the Google Cloud Platform. Configured the Gunicorn application server and Nginx proxy request.

Advanced Database System | *Java, Maven, SQL, CQ* — Jan. 2022 – Mar. 2022

Individual Project https://github.com/Altman-S/UoE-Assignment/tree/master/ADBS

Brief introduction: A Mini Database System containing basic data operations

- Implemented the Minimization Operation of Conjunctive Query (CQ) to reduce the amount of data search.
- Built a simple interpreter for Conjunctive Query with the Left-Deep Join Trees strategy in Java and generated a graph of Query Block.
- Constructed the basic operations (select, join, etc) of the database system based on Factory Method Pattern.