



Kellan Jiang

437-993-1773

kuang.jiang@uwaterloo.ca



https://linkedin.com/in/kuang-jiang



https://unikerogen.github.io

SUMMARY

Master's in Electrical Engineering with 4+ years in data science and data engineering, specializing in data pipelines, time series modeling, and database management. Proficient in Python, SQL, Java, and data visualization tools, with experience applying statistical modeling and forecasting techniques to solve complex business challenges. Proven track record of collaborating with cross-functional teams to deliver actionable insights and support data-driven decision-making.

EXPERIENCES

DingSheng Garment Company

Mar 2023 - Present

Software Engineer

Remote

- **ETL Pipeline Optimization:** Engineered efficient **ETL pipelines** using **Java** for seamless data flow into **PostgreSQL**, improving data quality by **50%** through systematic **data cleaning** and transformation processes.
- **Scalable Data Modeling:** Designed and implemented efficient **data models** using **schema optimization** and **indexing strategies** to streamline storage and query performance, reducing average query time by **40%**.
- **Automated Data Pipelines:** Built and deployed automated **data pipelines** with **CI/CD integration** using Jenkins, increasing data refresh rates by **30%** and reducing manual testing effort by **60%**, which expedited analytics readiness.
- **ML/AI-Enhanced Data Security:** Designed **machine learning models** for **network traffic analysis** and **anomaly detection** to ensure **data integrity** and monitor **IAM** processes. Proactively identified potential security threats and unauthorized data access, reducing incident response times by **35%** and safeguarding data pipelines.

Bell's Welding and Machinical Repair

Dec 2019 - May 2021

Software Engineer

Pennsylvania, United States

- **ETL Pipeline Development:** Designed and implemented a **Python-based ETL pipeline** using **PySpark** to standardize metrics and integrate data from diverse sources (e.g., **CSV**, **web forms**, **HTML**) into **PostgreSQL**. Improved data reliability by **30%** and boosted workflow efficiency by **50%**.
- **Data Automation:** Developed **Python** and **SQL** scripts for automated **data verification** and **analysis** using **NumPy** and **Pandas**, generating visual insights with **Matplotlib**. Collaborated with stakeholders to create data products that reduced reporting time by **80%**.

PJM Interconnection

Jan 2018 - Aug 2018

Software Engineer

Pennsylvania, United States

- **Testing and Data Pipeline Optimization:** Developed and enhanced over **50 unit and integration tests** in **Python** to validate data processing workflows. Proposed **runtime optimization** strategies, including **caching** and **profiling** methods, to improve data pipeline efficiency and scalability.
- **Data Pipeline Documentation and Workflow Optimization:** Authored and refined over **20 detailed technical documents** for **data pipelines** and **workflow processes** using insights from **Python** and **SQL Server** operations. Developed improvement plans that enhanced data accessibility and operational efficiency, reducing data retrieval times by **25%**.

PROJECTS

Money Flow

Mar 2024 - Present

Proejct Leader

Ontario, Canada

- **Machine Learning for Financial Data Analysis:** Developed **machine learning models** in **Python** to analyze spending patterns, integrating financial data via **web scraping** and storing results in **SQL** for efficient access. Improved budget forecasting and user planning efficiency by **70%**.
- **Data Validation:** Implemented rigorous **data validation protocols** for transaction accuracy, including automated checks to detect inconsistencies and ensure **data integrity**, supporting reliable budget forecasts.

ShroomBot - Automatic Harvesting Robot

Aug 2018 - Dec 2019

Project Leader

United States

- **ML and Data Processing:** Developed and validated **machine learning algorithms** in **TensorFlow** and **Python** for mushroom classification, using techniques like **parallel processing**, **sampling**, and **ensemble methods** to handle high-volume data. Processed over **20,000 images** on **AWS**, enhancing data classification accuracy and scalability.
- **Data Communication and Validation:** Optimized **data communication** protocols across networked machines, enhancing **real-time data processing** efficiency. Implemented runtime **data validation** strategies to ensure data integrity.
- **Workflow Modeling and System Optimization:** Designed and simulated **data workflows** and **system processes** using machine learning and inter-process communication models to optimized simulation-based testing for workflow accuracy and system efficiency.

ÉDUCATION

University of Waterloo

May 2021 - Dec 2022

Electrical Engineering | Master | Focusing Field: Machine Learning and AI & Software

Ontario, Canada

Related Course: AI, Algorithm Design, Optimization, Data Analysis, Data Structure, Software Testing/QA

GPA: 3.8/4.0

Temple University

Aug 2015 - Dec 2019

Electrical Engineering | Bachelor | Minor: Physics

Pennsylvania, United States

Awards: Dean's List for all semesters, Honor Student

GPA: 3.8/4.0

SKILLS

- **Software:** C/C++, Python, Java, JavaScript/TypeScript, HTML, CSS, SQL, Swift, MATLAB, Docker, Git, Shell, VBA
- **Tools:** AutoCAD, SolidWorks, OpenCV, Jenkins, Amazon Web Services, Microsoft Azure, Google Cloud Platform
- **Project Management & Collaboration:** Agile, Jira, Technical Documentation, Stakeholder Engagement