

TIENT LU (LOUIS)

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Education

Georgia Institute of Technology

Aug. 2023 – Dec 2024

M.S. in Computational Science and Engineering (College of Computing) | GPA: 3.75

Atlanta, GA

- Coursework: Computational Data Analysis, Data & Visual Analytics, Algorithms, High-performance Computing, Computer Vision, Deep learning

National Taiwan University

Sep 2015 - Jun 2019

B.S. in Civil Engineering | GPA: 3.74

Taipei, Taiwan

- Coursework: Operation Research, Behavioral Analysis, Engineering Statics

Technical Skills

Full stack — HTML, CSS, React.js, Node.js, D3.js, Python, Java, C++, SQL, Scala, RESTfulAPI, MongoDB, docker
Data — Databricks Apache Spark, PySpark, Hadoop, GCP, Azure, CUDA, AWS EC2, Hive, Apache Pig, Airflow, MSSQL
ML/AI — Tensorflow, Pytorch, Transformers, OpenCV, Scikit-learn, Pandas, Numpy, NLTK, Plotly, Bokeh, statsmodels

Experience

HP, Inc.

Oct 2020 – Jul 2023

Data Engineer

- Designed and Implemented 10+ ETL data pipelines by integrating 1M+ raw records from 40+ data sources monthly; optimizing workflow and reducing manual workload by 30%.
- Established and maintained a data warehouse on MSSQL and connected 10+ dataflows to PBI reports.
- Created reports using DAX and Power Query for 100+ clients from cross-functional team based on MSSQL data.
- Designed concurrent web scraping programs using multi-thread framework; improved workflow speed by 50%.

Machine Learning Engineer

- Applied ARIMA model to predict electronic manufacturing supply linearity and stability for better decision-making.
- Used RMSE/MSE/MAE/R-Squared Correlation matrix to evaluate performance, providing confidence for decision.
- Determined trends and relationships in supply and demand time-series data by applying advanced statistical methods like T-test, ANOVA, Chi-Square, ETS and Correlation analysis.

Leadership

- Mentored two junior engineers, actively holding review sessions to expand their skills in data cleansing, pre-processing, pipeline development, and visualization skill sets that increased team productivity by 20%.

Projects

Safety Itinerary Suggestion | FBProphet, D3.js, GeoPandas, Shapely, plotly, html, CSS

Sep 2023 - Dec 2023

- Analyzed and visualized the car accidents region and factors in the US, and built an dynamic websites to show the stats of the accidents.
- Estimated future accident counts using FB prophet time series forecast model.
- Designed and implement safety index based on the predicted accidents to give safe suggestion on the itinerary.
- Created an interactive web application for instant itinerary suggestion based on user-specified locations.

Diffusion model analysis | VAEs, Diffusion, SMLD, DDPM

Nov 2023 - Dec 2023

- Derived diffusion model from sequential variational inference and score function, unified SMLD and DDPM using SDE.
- Implemented various Gaussian parameters to observe noise adding processes, compared the image generation outcomes.

Logistics address elements extraction (Top 3%) | Transformers, BERT-Tokenizer, Scikit-learn, Pytorch

Jun 2021

- Developed N-grams language model to extract Point of Interest (POI) Names and Street Names from unformatted Indonesia addresses.
- Resolved dataset issues, such as missing characters, misspelled words, invalid address, and out-of-order format.

Customer Review Sentimental Analysis Model | Python, TensorFlow, Keras, Scikit-learn, NLTK

Jun 2021

- Developed a multi text classifier using LSTM to analyze and predict customers' rating based on comments feedback.
- Implemented text processing techniques including tokenization and lemmatization to manipulate the unstructured data.

E-commerce products Image Classification Model | OpenCV, EfficientNet-B7

Jun 2020

- Developed classification system to categorize shopping items from Shopee, a top SEA E-commerce platform.
- Performed model tuning using Adam optimizer and crossentropy loss function.