Tien(Louis) Lu

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Education

Georgia Institute of Technology   **Aug. 2023 – Dec 2024**
M.S. in Computational Science and Engineering (College of Computing)   *Atlanta, Georgia*
- Coursework: Computational Data Analysis, Data & Visual Analytics, Algorithms, High-performance Computing

National Taiwan University   **Sep. 2015 – Jun 2019**
B.E. in Civil Engineering   *Taipei, Taiwan*
- Coursework: Operation Research, Behavioral Analysis, Engineering Statics

Experience

HP, Inc.   **Oct 2022 – Jul 2023**
Technical Lead - Project Newcomen
- Designed the blueprint of the projects and implemented whole processes including user data collection, dataflows, database maintenance, visualization, and modeling prediction for better decision-making in the supply chain industry.
- Designed and developed Windows applications with GUI using PyQt5 and Tkinter, to collect and reformat clients' data.
- Implemented multiple data pipelines by integrating 50k+ raw records from 40+ data sources daily.
- Determined trends and relationships in time-series data by applying advanced statistical methods like T-test, ANOVA, Chi-Square, ETS and Correlation analysis.
- 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.
- 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.
- Wrote 10+ web crawling scripts to repeatedly extract hub inbound/outbound/inventory data or user-specified types of reports using web-framework, reducing daily manual workload by 60%.
- Designed concurrent web scraping programs using multi-thread framework; improved workflow speed by 50%.
- **Mentored** two junior colleagues, 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%.

HP, Inc   **Oct 2020 – Sep 2022**
Software Developer - Project RX
- Analyzed and optimized operational workflow, developed and deployed Windows applications using Python invoking VBA for 40+ clients; reduced process time by 30% and increased team working flexibility and efficiency.
- Established virtual environments for version control and packing; reduced applications sizes by 80%.
- Managed and executed the test process, analyzed system requirements specifications, and developed appropriate test plans and cases; executed test cases and verified actual results with expected results.
- Prepared negative and positive test data to validate scenarios according to business requirements.
- Automated 10+ ETL processes across millions of rows of data, reducing daily manual workload by 30%.

CECI Engineering Consultants, Inc   **Jul 2019 – Aug 2019**
Modeling Intern - BIM department
- Improved data sorting workflow in analytic modeling development by creating automatic applets using Dynamo and Revit; sped up work process by 70%.
- Designed algorithm to automate space height inspection using Dynamo API in Python.

Projects

Sentimental Analysis Model | *Python, TensorFlow, Keras, Scikit-learn, NLTK*   **June 2021**
- Developed a multi text classifier using LSTM to analyze and predict customers' rating based on comments feedback.
- Implemented various text processing techniques including tokenization and lemmatization to manipulate the unstructured data.

Image Classification Model | *OpenCV, EfficientNet-B7*   **June 2020**
- Developed image classification system to categorize various shopping items from Shopee, one of the biggest E-commerce platforms in Southeast Asia.
- Performed model tuning using Adam optimizer and crossentropy loss function.

Technical Skills

Languages: Python, Java, C++, C, HTML, CSS, D3.js, SQL, PySpark
Developer Tools: VS Code, Eclipse, Google Cloud Platform, AWS EC2, Hadoop, Hive, Apache Pig
Technologies/Frameworks: Linux, GitHub