Huy Quang Lai

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Education

Texas A&M University College Station, TX
Master of Computer Science *Aug. 2024 – May 2025*
GPA 3.700 / 4.000

Texas A&M University College Station, TX
BS in Computer Science, cum laude, Minors in Cybersecurity and Mathematics *Aug. 2021 – May 2024*
GPA 3.594 / 4.000

Experience

Software Engineer July 2024 - Present
Total Care 2U *Waxahachie, TX*

- Automated the end-to-end ETL (Extract, Transform, Load) process for migrating patient medical data into an advanced Electronic Health Record (EHR) system.
- Ensured data integrity by validating patients' personal information for accuracy and completeness.
- Designed automated quality assurance procedures to verify data consistency across systems.
- Presented progress demos to cross-functional teams to ensure stakeholder alignment and gather feedback.

Product Owner and Developer Aug. 2023 – Dec. 2023
Brazos Valley Council of Governments *Bryan, TX*

- Spearheaded the development of a scalable full-stack application using Ruby on Rails, capable of managing over 400 contracts simultaneously.
- Implemented and rigorously tested 85+ individual features using Cucumber and RSpec to ensure high-quality code delivery.
- Served as the primary point of contact between developers and stakeholders, facilitating requirement gathering and iterative feedback loops.

Technical Skills

Languages: Java, Python, C/C++, Ruby, SQL, JavaScript, TypeScript
Frameworks & Libraries: React.js, Next.js, Node.js, Ruby on Rails, PyTorch, TensorFlow, Scikit Learn
Tools: Git, GCP, AWS, VS Code, IntelliJ, Eclipse, Firebase, Pub/Sub
Accessibility: WCAG, ATAG, ARIA

Projects

Improving CLIP Training | *torch, Self-Supervised Learning, Contrastive Learning* Aug. 2024 – Dec 2024

- Optimized bimodal contrastive SSL models using global contrastive loss for scalable image-text learning.
- Implemented SogCLR/iSogCLR, enhancing retrieval accuracy and zero-shot classification.
- Analyzed optimizers and loss functions to improve model convergence and multimodal generalization.

ScriptSearch | *Python, Cloud Functions, Firebase, Pub/Sub, Typesense* Jan. 2024 – May 2024

- Co-developed a YouTube transcript search platform, enabling efficient keyword-based video discovery.
- Built scalable transcript indexing pipeline using Pub/Sub and Firebase Functions.
- Delivered a functional product in a 15-week collaborative team project.
- Achieved average query runtime under 4s with dynamic transcript scraping and indexing.

Mortality Prediction Model | *Python, Jupyter Notebook, pandas, numpy* Jan. 2023 – May 2023

- Built a predictive model for in-hospital mortality using eICU clinical data, achieving an AUC-ROC score of 0.89 with an XGBoostClassifier.
- Preprocessed data meticulously, performed feature engineering, and optimized hyperparameters for better predictive accuracy.
- Conducted feature importance analysis to identify critical factors influencing mortality risk.