Kenney Tran

GitHub
LinkedIn
Portfolio

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Education

- **Boston University** — Boston, MA
  Bachelor of Science in Computer Science (GPA : 3.2) — *Expected Graduation: 2026*
  - Relevant Coursework: Data Structures & Algorithms, Database Systems, Fullstack Development, Machine Learning, Data Science, ML for Buisness Analytics
  - Transferred from UMass Boston (Computer Engineering) in 2023

Technical Skills

- **Languages**: : HTML, CSS, JavaScript/ Typescript, Bash, Python, Java, C, SQL, OCaml
- **Frameworks**: : React, Next.js, Express, Material Ui, Firebase, Node.js, Tailwind, scikit-learn, NumPy, Pandas,
- **Databases**: : MongoDB, Redis
- **Developer Tools**: : Git/GitHub, Vercel, Postman

Projects

- **BU Transit Tracker Web Application (Next.js, TypeScript, Redis, Google Maps API, Vercel)**:
  - Developed **real-time campus bus tracking application** integrating BU Transloc API and Google Maps to display live bus positions, routes, and arrival predictions
  - Implemented **Redis caching layer** to optimize API performance, reduce latency, and handle high-frequency location updates
  - Deployed with **CI/CD pipeline via Vercel**, automating build validation and deployment on code commits
- **Airbnb Price Prediction Model (Python, scikit-learn, pandas, NumPy, Matplotlib, XGBoost)**:
  - **Designed ML pipeline** to predict Airbnb listing prices (76K+ records), achieving **R^2 = 0.71 with Random Forest**
  - Conducted **feature engineering** on amenities and neighborhood-based attributes; handled missing data with imputation
  - Performed **log transformations** to reduce skewness and optimize model performance
- **To-Do List and Calendar Integration (React, Express, Firebase(db and Oauth), Axios)**:
  - Built a **full-stack task manager** with real-time updates using Firestore Database and user authentication via Google/GitHub OAuth
  - Ensured **persistent session management and offline accessibility**
- **Multi-threaded Image Processing Server (C, POSIX Threads, Sockets, Semaphores)**:
  - Developed a **thread-safe C server with FIFO queue**, supporting image registration, blurring, and edge detection
  - Applied **mutexes and semaphores** to manage shared data structures, maximizing concurrency and stability
- **Latent Semantic Analysis (LSA) Search Engine (Python, Flask, scikit-learn)**:
  - Implemented **semantic search system using LSA** with dimensionality reduction (100 components)
  - Deployed **scree plot analysis** to optimize trade-off between noise reduction and variance retention
  - Visualized top-5 results via cosine similarity mapping
- **Microbial Abundance Prediction (Python, scikit-learn, NumPy, Matplotlib, pandas, XGBoost)**:
  - Modeled **log-transformed microbial abundance against pH** to capture biological trends; achieved **R^2 = 0.63 with XGBoost**
  - Reduced **log-MSE to ±0.83** through hyperparameter tuning and **robust data cleaning pipeline**