Ashish Thomas

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EDUCATION

Northeastern University, Boston MA   *Sep. 2022 - Dec. 2025*
Candidate for Bachelor of Science in Computer Science with Concentration in AI | GPA: 3.8 | Dean's List
Coursework: Object Oriented Programming | Algorithms and Data | Foundations of AI | Linear Algebra

TECHNICAL SKILLS

Expertise: Full Stack Development | Machine Learning & AI | Big Data & Analytics
Languages: Python | Java | SQL | JavaScript | C | HTML | CSS
Frameworks: React.js | Express.js | Flask | XGBoost | TensorFlow
Libraries: Pandas | Numpy | SciKit Learn | Matplotlib | Seaborn
Databases: MySQL | MongoDB | PostgreSQL | IBM DB2

WORK EXPERIENCE

Teaching Assistant
Khoury College of Computer Sciences - Boston, MA   *Aug. 2024 - Present*
- Mentoring 20+ first-year computer science students by assisting with course material, hosting workshops, and helping facilitate discussions about the best software engineering practices in collaboration with other TAs.

Data Analytics and Engineering Co-op
Massachusetts Bay Transportation Authority (MBTA) - Boston, MA   *Jan. 2024 - Jun. 2024*
- Created compelling data visualizations to analyze financial data from both the MBTA and Keolis rail companies to provide data-driven insights to 3 departments – Procurement, Capital Planning, and Operations.
- Rebuilt ETL pipeline with Python, Pandas, and Crontab in a server environment for transformation of over 4,000,000 inventory records from the MBTA Materials database, improving daily data retrieval time by 60%.
- Developed a time-series forecasting model with XGBoost and MLForecast to predict future inventory for the upcoming fiscal year based on historical purchases over the last 20 years.

Software Developer
Oasis NEU - Boston, MA   *Sep. 2023 - Dec. 2023*
- Implemented a 4 month agile workflow with a team of software developers to build a full stack web application targeted at improving coffee shop wait times for online orders by leveraging Grubhub's API for order data.
- Improved project lifecycle time by 30% by prioritizing goal planning and communication in Trello, wireframe design in Miro, development in Django, testing user feedback, and streamlined collaboration through GitHub.
- Built the application back-end using Python and Django, mastering Django's ORM to efficiently display data from a Postgres database to populate a customer queue and busy-hours heatmap.

PROJECTS

Kicks Web Application – *Node.js, JavaScript, MongoDB, AWS*   *Jul. 2024 - Sep. 2024*
- Designed and deployed a full stack, multi-page web application for user tailored shoe recommendations, going from concept to implementation with wireframes converted to an engaging UI/UX with React and Tailwind CSS.
- Generated shoe recommendations through a Llama 3.1 LLM, accessed via Hugging Face's Inference API, and stored recommendations and shoe metadata in MongoDB for quick retrieval and manipulation through Express.
- Engineered a RESTful API microservice with Flask, Nginx, and Gunicorn for real-time shoe price retrieval, built for pulling 100+ shoes from online commerce platforms efficiently, hosted on AWS EC2.

Spotify Playlist Recommender – *Python, Pandas, SciKit Learn, Spotify Web API*   *Mar. 2024 - Apr. 2024*
- Led a project to provide song recommendations to 60,000 unique playlists by analyzing relationships between audio features of existing playlist songs, extracted using Spotify's Web API and Pandas.
- Utilized Jupyter Notebooks for exploratory data analysis with Matplotlib and Seaborn, comparing different ML algorithms to optimize performance of the recommender application.
- Trained and tuned Random Forest, SVM, and KNN Classifiers with SciKit Learn and hypertuned with GridSearchCV for 20% accuracy boost, testing model performance across real user playlists.