Timothy Nguyen

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Education

University of Massachusetts at Amherst Amherst, MA May 2022

BS in Computer Science

GPA: 3.84

Coursework: Algorithms, Software Engineering, Scalable Web Systems, Machine Learning, Operating Systems, Computer Networks, Databases, Information Retrieval, Data Science, Natural Language Processing, Artificial Intelligence

Work Experience

Mastercard, Incoming *Software Engineer I* Arlington, VA Aug 2022 - Present

- Will be a full-stack engineer on the data & services team in August 2022.

BUILD UMass*, Co-President & Software Engineer* Amherst, MA Sept 2019 - Present

- Provide non-profits, startups, and businesses with web and mobile applications through pro-bono engagements.
- Grew organization to over 65 members and partnered with over 10 clients over two years.
- Led two teams of 8 people to develop an auth/user management & forms/surveys system.
- Utilized React, Node, Express.js, MongoDB, React Native, and Firebase for client projects within the past two years.

MathWorks, *Software Engineer Intern* Natick, MA Sept 2021 – Dec 2021

- Developed, Implemented, and Tested API and performance features on Matlab editors & renderers.
- Collaborated with the web widgets team on design reviews, code reviews, bug fixes, sprint planning, and architecture planning.
- Utilized React, HTML, CSS, JavaScript, Grunt, Maven, QUnit & FuncUnit.

Dell Technologies, *Software Engineer Intern* Hopkinton, MA May 2021 – Aug 2021

- Collaborated with two interns to develop Kalman Filter & Metrics Toolkit on Dell's Edge Solutions Platform.
- Key Contributor in containerizing/deploying applications on Litmus Edge and Streaming Data Platform with Docker.
- Designed and developed an ETL pipeline for a POC related to Litmus Edge and Dell's Streaming Data Platform.
- Utilized Python, JavaScript, Tensorflow, Sklearn, Docker, Grafana, InfluxDB, Node-red, Postgres, and VMware technologies.

Systems & Technology Research, *Software Engineer Intern* Woburn, MA May 2020 – Aug 2020

- Designed a Spring Boot/Java/Maven REST service to rapidly automate assurance cases for predictive maintenance.
- Implemented algorithms for Bayesian Networks to support causal model architecture and manage prediction data.

Skills:

Programming Languages: Python, JavaScript, Java, R, C, HTML, CSS, SQL, Linux, Bootstrap

Frameworks: React, Node/Express, Redux, AWS, Spring Boot, React Native, NumPy, Pandas, TensorFlow

Development: Agile, Scrum, Docker, Nginx, Git, Jira, Postgres, MongoDB, MySQL, InfluxDB, Grafana

Projects

Movie Recommender System

- Developed a movie recommender system with Collaborative Filtering Methods through ALS.
- Incorporated front-end React/Redux application that has search, liking, disliking, and recommending movies.
- Developed an authentication system with Google OAuth and JWT to manage user information and authorize users.
- Recommend movies with FastAPI/Python service that utilizes the Alternating Least Squares Method in Pyspark.
- Utilized React, TypeScript, Node/Express, Postgres, Docker, Nginx, FastAPI, and Spark on a microservice architecture.

The Index

- Led the development of the website "The Index", where students can purchase yearbooks at UMass Amherst.
- Utilized React.js, Next.js, Bootstrap, and Netlify.

Boolean Search Engine

- Developed a boolean logic search engine from a set of tweets with Python.
- Created an inverted index with delta encoding that can find the top five tweets with a specific word or set of logical statements.

Project Evaluation Tool

- Established an NLP project to detect political ideology & bias on COVID-19 News Articles and tweets on a 4-person team.
- Developed ML and Deep Learning models with Python/TensorFlow/PyTorch on 500,000 news articles & 200,000 tweets.
- Created models to analyze tweets such as RNN, BERT, Naive Bayes, Support Vector Machines with Regression Techniques

Levels.fyi: Visualizing & Analyzing Total Compensation

- Utilized the Levels.fyi dataset to analyze total compensation based on location, work experience, and company information.
- Developed interactive choropleth visualizations through R, Mapbox, Plotly, ggplot, and R-shiny.