Vignesh Muthukumar

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Education

North Carolina State University **Aug 2021 – Present**
Masters of Science in Computer Science 4.0/4.0

SSN College of Engineering, Anna University **Jun 2015 – May 2019**
B.Tech, Information Technology 8.47/10.0

Relevant Coursework

Graduate : Design & Analysis of Algorithms, Software Engineering, Database Management Systems, Cloud Computing Technology, Neural Networks, Automated Learning & Data Analysis.

Technical Skills

Languages: Java, Python, C++, HTML/CSS, JavaScript, Typescript, SQL
Frameworks: Java Spring, NodeJs, Vert.x, Dropwizard, MochaJs, Numpy, Scikit-Learn, Pandas, JSON
Tools and Platform: Linux, Jenkins, GitHub, Bitbucket, Apache Kafka, Jupyter Notebooks.

Experience

Salesforce, Inc **May 2022 – Aug 2022**
Software Engineer Intern, Commerce Cloud San Francisco, CA

- Primary developer of a Typescript-based *Command Line Plugin* that stabilizes the configuration and updating of High Scale Runtime Environment Tools used by multiple teams and increases developer productivity by 95%.
- Worked on Java Spring-based micro services with the **High Scale Checkout** team to redesign the backend architecture and migrate from OracleDB to a NoSQL database platform that will enable API calls to scale 100 times.

Ninjacart **Jun 2019 – Jul 2021**
Software Engineer Bangalore, India

- Architected backend APIs for SCM Tech (fleet and driver management) including Onboarding, Verification, Facial Attendance, Communication, Ticketing, Tariff Calculation and a microservice for *Configuration Management*.
- Designed and developed the backend service for *Last Mile Delivery process* using Java Spring and Dropwizard.
- Primary developer for *Real-time Live Location Tracking* feature using Java Vertx and Apache Kafka that reduced the transit latency by 40% and increased the on-time delivery from 60% to 90%.

North Carolina State University **Jan 2022 – Present**
Graduate Teaching Assistant, CSC216 - Software Development Fundamentals Raleigh, NC

- Host Weekly office hours, in-person doubt clarification sessions, and the grading of projects & assignments for **CSC216** and heading **CSC217 - Software Development Fundamentals Lab** with a section of 30 students.

Projects

Anomalous Climate Pattern Detection - Machine Learning | *Python, Pandas, TF* **Jan 2022 - Apr 2022**

- A time series-based anomaly detection model that can identify false weather patterns was built with 96% precision-recall score using RF, XGBoost and LSTM on 4M meteorological data points.
- Ranked fifth out of 30 teams, demonstrating novelty by doing rigorous statistical and exploratory data analysis to deduce spatial and temporal correlations to rearrange data.

Terrain Identification from Time Series Data - Neural Networks | *Python, TF, Pytorch* **Jan 2022 - Apr 2022**

- Performed resampling, windowing, generating time-dependent differential parameters and built a Conv-LSTM model with TimeDistributed & 1D-Conv layer, Batch Normalization to distinguish between terrain types with an F1-Score of 95%.

Marketplace - Database application | *Java, SQL, RDBMS* **Sep 2021 - Nov 2021**

- Developed a JDBC based Marketplace application implementing Normalization, nested SQL queries and Triggers.

Binge - Browser Extension for Streaming Platforms | *Javascript* **Sep 2021 - Nov 2021**

- Created a Google Chrome Extension for Netflix utilizing open IMDb APIs, and added browser caching for faster data retrieval to display information on movie ratings, meta-critic reviews, and cast members.

Deep Learning based Dropout Prediction in MOOCs over weeks | *Python* **Nov 2018 - Apr 2019**

- Developed a *MLF Neural Network* based system that predicts the student dropout rate during successive weeks of a course and evaluated predictions using metrics like *ROC, RMSE, Precision and Recall*.