

VIGNESH MUTHUKUMAR

☎ 919-637-2317 ✉ vickymhs@gmail.com [LinkedIn](#) [Github](#) [Website](#) [Google Scholar](#)

EDUCATION

North Carolina State University **Aug 2021 – May 2023**
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.

WORK EXPERIENCE

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

- Designed and developed a *Command Line Plugin* in Typescript for configuring and auto-updating the *High Scale Runtime Environment Tools* used by multiple teams to increase developer productivity by 95%.
- Worked on the **High Scale Checkout** microservice in Java 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 the backend service for *Last Mile Delivery* process including Onboarding, Facial Verification, Routing, Communication, Ticketing, Tariff Calculation using Java Spring and Dropwizard, decreasing delivery misses by 93%.
- Developed *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

- Head the **CSC217 - Software Development Fundamentals Lab** section of 30 students, host weekly office hours, doubt clarification sessions and grade the assignments & projects.

PROJECTS

Simulating Nudge Theory using Social Network Analysis | *Python, NetworkX* **Sep 2022 - Dec 2022**

- Social networks built on Trust and Transaction data examine the effects on trust metrics depending on knowledge transactions between two nodes and determine the most vital nodes for information dissemination (Nudge Theory).

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

- A time series-based anomaly detection model with a 96% Precision-Recall score was developed using RF & XGBoost on 4M data. This model deduces spatial and temporal correlations that can identify anomalous weather patterns.

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 Norm 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 an *MLF Neural Network* model that predict the student dropout rate during successive weeks of a course and evaluate predictions using metrics including *ROC, RMSE, Precision and Recall*.