

## Thirunaavukkarasu Murugesan

Jersey City, NJ 07307 | +1(551)786 1733 | tmuruges@stevens.edu | linkedin.com/in/thirunaavukkarasu/ | github.com/Thirunaa

### EDUCATION

**Stevens Institute of Technology** | Hoboken, United States  
**Master of Science in Computer Science**

May 2023

**Anna University** | Chennai, India

May 2016

**Bachelor of Engineering in Computer Science and Engineering**

### SKILLS

**Languages/Frameworks/Technologies:** Python, JavaScript, Hadoop, C++, R, HTML5, Flask, Django, React, SQL

**Tools:** Advanced Microsoft Excel, Tableau, PostgreSQL, MySQL, MongoDB, Cassandra Microsoft Access, Jupyter, Git

**ML Libraries/Models:** Sklearn, Tensorflow, Keras, SciPy, NLTK, Spacy, GLM, Regression, Decision Tree, SVM, Naïve Bayes, Bayesian Modeling, Neural Network, Random Forest, Clustering, Classification

### CERTIFICATIONS

Deep Learning Specialization, Post Graduate Program in Machine learning, SQL for Data Science - UC Davis, Tableau - Lynda

### WORK EXPERIENCE

**Graduate Teaching Assistant**

August 2022 – Present

**Stevens Institute of Technology**

Hoboken, New Jersey

- Working as Graduate Teaching Assistant under **Prof. Shucheng Yu** for course **Applied Machine Learning**, holding office hours, clarifying students' questions, and grading students' mid-term exam and final project
- Working as Graduate Teaching Assistant under **Prof. Jingyi Sun** for course **Web Mining**, conducting office hours, clarifying students' questions, and grading students' mid-term and final project report and presentation

**Graduate Research Assistant**

May 2017 – July 2022

**Stevens Institute of Technology**

Hoboken, New Jersey

- Assisted **Prof. Jingyi Sun** in her research "US Fortune 500's stakeholders engagement during the COVID-19 pandemic: Evidence for proactive approaches" scrapping and mining data from social media platforms
- Examined how U.S. Fortune 500 companies discussed their COVID-19 pandemic CSR actions on Facebook, Twitter, and other social media platforms over 15 months' data and how the public responded to such messages

**Software development Engineer**

February 2017 – July 2021

**HTC Global Services**

Chennai, India

- Managed and worked in Tax applications with large DB2 tables (60-70 million records every month) to generate reports and send outbound files to different downstream areas, fetching data using IBM data studio by writing DB2 SQL queries
- Worked on transforming data intense application from Mainframe to AWS – changed large dataset and DB2 tables to change the job flow of the database operations, impacting up to 30+ teams at enterprise level
- Developed dashboard using Flask and Chart.js, to generate graph for monitoring live data from sensors, improving efficiency and reducing manual work by 72%

### ACADEMIC PROJECTS

**Recommender system – Movie recommendation system – KNN, SVD, TD-IDF Vectorization and Cosine similarity**

- Leveraged movies' database information to analyse whether a movie can be recommended to a user and movies that are similar to each other based on description provided
- Applied methods like Content based, SVD and Collaborative filtering to improve and enhance Recommender's performance and deployed in Herokuapp.com

**Stock Market Price Prediction - Time Series Forecasting - LSTM**

- Normalized and standardized stock prices dataset and modelled data on LSTM with sigmoid activation function
- Measured loss of model in mean squared error (RMSE) and predicted price of stock at any given date (RMSE score 9.725)

**Skills Match – Selenium, NLTK and BERT**

- Scraped the Job data - Company, Location, Date, Job description from LinkedIn with selenium for a given job position keyword
- Used PDF Miner and NLTK python package to scrape the skillset from the resume and Job descriptions, applied text matching algorithms like Cosine similarity and BERT to find appropriate jobs for a given profile/resume

**PageRank on Wikipedia pages - Hadoop**

- Constructed a page rank algorithm to decide the importance of each webpage by assigning weighting value based on any incoming link to those webpages
- Implemented Iterative MapReduce to rank Popular Wikipedia pages. Used Amazon EMR & S3 as remote platform

### MEMBERSHIP AND ACTIVITIES

Member of Young Indian, Computer Society of India | **MAM College of Engineering**

Trichy, India

Most Valuable Player (2020) | **HTC Global Services**

Chennai, India