

Pranav Raj

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EDUCATION

Georgia Institute of Technology

Atlanta, GA

Bachelor of Science and Master of Science in Computer Science

4.0 GPA — Aug. 2021 – Dec. 2023

- Courses: Computer Organization (Assembly + C Programming), Systems + Networks, Design and Analysis of Algorithms, Probability + Statistics, Robotics + Perception, High-Performance Computing, Automata and Complexity, Intro to AI, Computer Vision, **Teaching Assistant for Machine Learning**.

EXPERIENCE

Incoming Software Engineer Intern

June. 2024 – Aug. 2024

Capital One

San Francisco, CA

Machine Learning Engineer Intern

May 2023 – Aug. 2023

Skytap

Remote

- Developed models (Poly Regression, Exponential Smoothing, Autoregressive Integrated Moving- Average) to forecast resource (CPU, RAM, and storage) utilization using historical utilization/sales data.
- Worked with Stationary and Non-Stationary data; Transformed Non-Stationary data.
- Explored AWS SageMaker DeepAR and Holt's Winter Seasonal Exp Smoothing forecasting algorithms.

Software Engineer Intern

May. 2022 – Aug. 2022

Intuitive Surgical

Sunnyvale, CA

- Created a customized front-end form where end-users input essential information about their API
- Upon form submission, the project generates and runs a Tavern test file, displaying detailed test results.
- Handles a variety of scenarios: certificate checks, enrolling a certificate without a CSR, comparing against secure databases, OKTA Authorization, lifetime bearer token generation, text file checks, etc.
- Integrated within Digital Organization's Jenkins CI/CD pipeline to enable organization-wide use.

Machine Learning Research Lead

Sep. 2021 – Present

Stadium-IoPT Project Team

Atlanta, GA

- Led dev of white paper summarizing progress; Ran the model on PACE supercomputer Phoenix cluster.
- Improved CNN model that predicts play type from play clip with data cleaning + hyperparameter tuning.
- Created binary classification model and Markov Chain model based on prior play information.
- Created a final neural network that fuses the Markov Model and LSTM Neural Network results.

Socioeconomic Poverty Prediction (SPP) and Parkinson's Lead

Sep. 2021 – Present

Big Data Big Impact

Atlanta, GA

- Improved the socioeconomic indicator to account for new land classifications using Sentinel-2 dataset.
- SPP: Led Platform (collect clean satellite imagery), Analysis (classify imagery and compute final score), and Data Visualization (create Heat Map) teams.
- Parkinson's: Facilitated creation of distinct models to predict Parkinson's (trained SVM classifier/XGBoost algorithms on voice data, Convolutional Neural Networks on handwriting data, etc.)

Data Science Intern

May 2021 – Aug. 2021

Innception

Remote

- Performed massive web scrape (100000+ records) of a freelance services marketplace using Selenium.
- Analyzed data, retrieved from pSQL, to provide valuable insight for the company's major release.

PROJECTS

- **COVID-19 Vaccination Analysis of India:** Web scraped population data using BeautifulSoup from Wikipedia, and vaccination data from government report. Visualized relationship using Plotly Express.
- **Mercury:** Digital Receipt Management service with NCR API, MongoDB, NuxtJS. Created at HackGT.
- **Numerical Ranking of 2020 NFL Regular Season:** Performed eigenvalue and eigenvector calculations to implement the Regular Model and Colley Model, similar to Markov Chains.

TECHNICAL SKILLS

Proficient: Python, Java, Tavern, Web Scraping, Pandas, Statistical + Time Series Analysis, NumPy, Git

Competent: SQL, C, CNNs, Assembly, Databases, Jenkins, YAML, Markov Chains, Pyodbc, RNNs