JOSHUA ALFRED JAYAPAL

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EDUCATION

M.S., Computer Science Expected May 2025
New York University, Brooklyn, NY GPA: 3.77
Relevant coursework: Software Engineering, Big Data, Machine Learning

B.Tech., Electronics and Communication Engineering Graduated May 2023
Vellore Institute of Technology, Chennai, India GPA: 3.72
Relevant coursework: Essentials of Data Analytics, Deep Learning, Applied Linear Algebra

SKILLS

Data Analytics and ML: PyTorch, TensorFlow, NumPy, PySpark, Apache Airflow, Data Build Tool, Airbyte, Streamlit
Development Tools: Django, Linux, Flask, MySQL, PostgreSQL, Microsoft Power BI, GitHub, AWS, Travis CI
Programming: Python, Java, MATLAB, SQL, R
Certifications: AWS Certified Cloud Practitioner [CLF-01] – June 2022
Soft Skills: Problem Solving, Team player, Effective Time Management, Communication, Fast Learner

EXPERIENCE

Mphasis Javelina, Phoenix, AZ: Data Analyst Intern June 2024 – Present

- Performed **extensive SQL querying, power queries, explanatory data analysis and visualizations** of auto-adjudicated claims data based on patient and provider demographics (Streamlit, Power BI, PostgreSQL)
- **Managing ETL pipelines** to migrate claims data to on-premises (Airbyte, Data Build Tool, Apache Airflow)

Technocolabs Softwares Limited, Indore, India: Machine Learning Engineer Intern Oct 2022 – Dec 2022

- Designed a predictive machine learning pipeline for **financial risk assessment**, as a web application (Python, R)
- Optimized various classification and regression models for predicting loan status, repayment years, EMI, and ROI, achieving **98% testing accuracy** (Scikit-Learn, Django)

Mphasis Limited, Chennai, India: Java Developer Intern May 2022 – Jun 2022

- Developed a web-based **Insurance Underwriting application**, innovatively rating risk profiles and detecting inconsistencies through social media and fitness records (Java, Servlets, JSP) and revolutionized premium calculation with an advanced algorithm, **enhancing efficiency by 16%** over the previous version
- Architected a user interface for insurance applications, managing data storage (MySQL), facilitating API interactions with applicant profiles, and implementing object detection (AWS Rekognition)

PROJECTS

VibeCheck Sep 2023 – Dec 2023

Spearheaded a team of 5 to produce an app that **matches users by their listening patterns** and their "vibe" patterns using Spotify and OpenAI APIs.

- Developed the backend API interactions between the application, database, and AI models (Django, postgreSQL)
- Deployed the application using AWS/Travis with **87% coverage** and **114 issues closed**

Automated hand movement recognition model using Spiking Neural Networks Mar 2022 – Sep 2022

Collaborated as a Research Intern in a team of two to analyze deep learning models to classify hand movement signals.

- Acquired **motor imagery EEG signals** using BCI technology and prepared a dataset to train a Spiking Neural Network and a Convolutional Neural Network and analyze their performances on hand-movement detection (TensorFlow, Keras)
- Achieved an impressive **97.38% testing accuracy** for the SNN, ideal for recognizing movements in a robotic arm

PUBLICATIONS

- **Inception-Based Global Context Attention Network for the Classification of Coffee Leaf Diseases**, Ecological Informatics, **Impact Factor:** 5.1, **Authors:** Dr. R. Karthik, Joshua Alfred J., Joel Kennedy J.

ACTIVITIES

Programming Team Member, AUVSI, Chennai, India Aug 2020 - Mar 2021

Developed real-time image-based road crack detection algorithms for drone surveillance of airport runways (**MATLAB**)