JOSHUA ALFRED JAYAPAL

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EDUCATION

New York University, Brooklyn, NY   Expected May 2025
M.S., Computer Science   GPA: 3.77
Topics: Software Engineering, Algorithms, Applied ML in Finance

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

SKILLS

Data Analytics and ML: PyTorch, NumPy, Pandas, PySpark, Airflow, Data Build Tool, Airbyte, Power BI, LlamaIndex
Development Tools: Django, Flask, React JS, PostgreSQL, GitHub, Next.JS, AWS EC2, S3, RDS, Travis CI
Programming: Python, Java, JS, MATLAB, SQL, R
Certification: AWS Certified Cloud Practitioner [CLF-01] – June 2022

EXPERIENCE

Mphasis Javelina, Data Analyst Intern   Jun 2024 – Aug 2024
- Performed **extensive SQL querying**, explanatory data analysis and **visualizations** of insurance claims data
- Built **ETL pipelines** to migrate production data into analytical real-time health dashboards
- Created a domain-specific **RAG pipeline** for the team to effectively understand the application database

Technocolabs Softwares Limited, Machine Learning Engineer Intern   Oct 2022 – Dec 2022
- Designed a predictive **ML pipeline** for financial risk assessment of Bondora systems
- Pitched an **EDA and improved workflow** with derived dependent variables to further assess default risk
- Fine-tuned and deployed various ML model ensembles for predicting loan status, repayment years, EMI, and ROI, thus **improving** prediction accuracy by 19%

Mphasis Limited, Java Developer Intern   May 2022 – Jun 2022
- Proposed and developed an improved Insurance Underwriting application framework **in 6 weeks**
- Revolutionized premium calculation with a modified rating algorithm, **enhancing efficiency** by 16%
- Architected **user experience** with improved UI in the application, data storage, and object detection using cloud

PROJECTS

VibeCheck   Sep 2023 – Dec 2023
- Spearheaded a **team** of 5 to develop an app that matches users by their Spotify listening and "vibe" patterns
- Developed the backend API interactions, AI models and deployed using AWS/Travis with **87% coverage** and **114 issues closed**

FlashPrepAI
- Collaborated in a team of three to build FlashPrepAI - an interactive flashcard generator and study application
- Ideated the **ER diagram** for the database and developed the user authentication and RAG-powered AI assistant
- Achieved **200+ users count** on the first week of release

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.
- **BCI based Robotic Arm Control using MI-EEG and Spiking Neural Network**, 5th October 2022, **Proceedings of the 13th ICCCNT**, Indian Institute of Technology Kharagpur, Kharagpur, India.

ACTIVITIES

Research Collaborator, SAI Lab, NYU   Aug 2024 - Present
Exploring methods to accelerate LLM inference through **speculative decoding** using NYU HPC clusters
Publication committee member, NYU Data Science Club   Sep 2023 - Present
Authored, edited, and published **data science-related articles** for the NYU Data Science Review page in Medium