HARSHIT JINDAL

Software Engineer
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EXPERIENCE

Sr. Associate — ***American Express*** — ***Aug 2021 – Present***

- Backend software engineer for a critical web application used by data scientists for the development, testing, governance, and deployment of Machine Learning (ML) models at Amex.
- Led a team of four to build and own a pivotal pipeline that bridges the gap between the data scientists and the real-time execution platform, directly supporting ML models with a combined pre-tax income benefit of over $50 million in 2023.
- Refactored the monolithic application into individual services, reducing code complexity and improving maintainability.
- Designed and developed the CI/CD pipeline for the application, eliminating manual errors and reducing the time-to-market for new features and bug fixes. Additionally, coordinated with platform teams for infrastructure maintenance and stability.
- Mentored seven colleagues to build Python modules and standalone software capabilities, aiding the decision science teams in developing and upgrading the ML models more efficiently. This brought down the time-to-market by several weeks for each ML model, benefiting 20+ data science teams.
- Promoted from Associate to Sr. Associate in February 2023.

Intern, Product Development — ***American Express*** — ***Jan 2021 – Jun 2021***

- Programmed six manual processes into end-to-end automated pipelines using Selenium and the Pandas library.
- Coded 100+ rules for the Dynamic Authorization system responsible for the credit and fraud decisioning basis ML scores.

Intern, iOS Development — ***CS Soft Solutions Pvt. Ltd.*** — ***May 2019 – Jul 2019***

- Augmented Reality Home Planner: Used Apple ARKit to assist in the development an iOS app for a furniture store enabling users to place virtual 3D models of various items in their space to see how they would look and make informed decisions.
- Food Delivery App: Implemented GPS tracking in a food delivery app using Core Location, in addition to finding and displaying the optimal route between pickup and drop locations using the Directions API.

EDUCATION

Master's Degree (ongoing) — ***BITS, Pilani*** — ***Jan 2023 – Dec 2024 (exp.)***

- Master of Technology (M.Tech.) in Software Engineering (work-integrated). CGPA: 9.2/10.
- Coursework: Software Architecture, Service Oriented Computing, Cloud Computing, DevOps, Secure Software Engineering, Software Testing Methodologies, Agile Software Processes, Software Product Management. Grade sheets available here.

Bachelor's Degree — ***Panjab University, Chandigarh*** — ***Jul 2017 – Jun 2021***

- Bachelor of Engineering (B.E.) in Information Technology. CGPA: 8.2/10 (with Honors).

SKILLS & TECHNOLOGIES

- Python (work experience), C++ (data structures & algorithms), Swift (internship), and Core Java.
- Strong hold over Linux CLI, Bash scripting, Git CLI / GitHub, and CICD tools like Jenkins. Familiar with Docker and K8s fundamentals. Experience with AWS S3, EC2, Lambda, IAM, SES, and Route 53 for personal projects.

ACHIEVEMENTS

- Achieved 4* on CodeChef with a rating of 1902 in 2022
- Graduated with the 6-month Deep Learning Nanodegree by Udacity and Facebook AI in 2019. Recipient of full scholarship by Facebook with an acceptance rate of 3% out of 10,000 global applicants. Credential ID: C9HLTFDN

PROJECTS

- **Online Presence:** Developed a website at https://harshitjindal.com to host static content such as resume, grade sheets, and custom links like https://harshitjindal.com/linkedin for easy navigation. Used DNS management to set up a personalized domain name (CNAME) and contact@harshitjindal.com (MX records) for both inbound and outbound emails.
- **Cosmic Artifact Filter:** Trained a deep learning model using fast.ai to flag cosmic ray artifacts in satellite imagery for deeper analysis using image data from NASA's MESSENGER Spacecraft orbiting the planet Mercury.
- **Dark Matter Discovery:** Built a pipeline to visualize and confirm the presence of dark matter in cosmic data based on the principle of Strong Gravitational Lensing, using PyAutoLens.
- **Live Accident Detection:** Used transfer learning to train a ML model capable of processing live video camera feed at traffic intersections to spot road accidents. Secured 3rd place at OctaHacks Hackathon 2019.
- **[Brain-Computer Interfacing] Cognitive Neuroscience:** Wrote Arduino software in C to detect muscle artifacts in real-time EEG data collected from the NeuroSky MindWave headset, with the potential for upgraded brain mapping by attenuation of the recognized artifacts. It was tested on the Left Frontal Lobe with >95% accuracy.
- **[iOS Software Development] Price Aggregator for Resellers:** Developed an iOS app in Swift that scans product barcodes using AVFoundation and aggregates the price history from different sources.