Aditya Kumar

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EDUCATION

Indian Institute of Technology, Delhi · 7 GPA
Bachelor of Technology in Production and Industrial Engineering, Minor in Entrepreneurship · *2019 - 2023*

PMS Public School · 90%
Class XII · *2018 - 2019*

EXPERIENCE

Auro Digital | *Full Stack Engineering* · Jun 2023
- Engineered and maintained a React-based Order Management System (OMS) and Portfolio Management System (PMS) within the intricate realm of crypto trading.
- Seamlessly integrated Redux to orchestrate and harmonize the global state, employing Redux actions, reducers, and selectors to master intricate data flows, ensuring unwavering data consistency across the application.
- Diligently tackled performance bottlenecks through meticulous identification and resolution of rendering, data retrieval, and state management issues.
- Established a robust Continuous Integration/Continuous Deployment (CI/CD) pipeline to facilitate automatic deployment of builds from git branches to an S3 bucket, facilitating a seamless platform update process.

INTERNSHIPS

Performance Modeling of Integrated Architectures | *Prof. Bernhard Egger (SNU, South Korea)* · May 2021
- Gained expertise in OpenCL Data Parallel and Execution models, focusing on integrated CPU-GPU architectures and their memory structures.
- Generated Assembly code for Kernels by extracting and disassembling OpenCL kernels to obtain ISA binary for the Integrated GPU.
- Conducted performance profiling of Intel integrated CPU-GPU architecture using custom-designed OpenCL microkernels, and meticulously documented Register Allocation for Intel Processor Graphics.

COASTER PROJECT | *Prof. Ronan Llyons, Economics Dept.* | *Trinity College Dublin* · March-May 2021
- Performed advanced data analysis to derive precise estimates of trade activities between Britain and Ireland during their economic union.
- Conducted a thorough assessment of the macroeconomic relationship between Britain and Ireland by digitizing and processing invaluable historical documents containing coastal trade data between the two nations.
- Implemented cutting-edge technology by integrating Tesseract 4, featuring a state-of-the-art neural network (LSTM) based OCR engine with a specialized model for accurate recognition of numeric data, achieving an impressive 99% accuracy rate.

Hostel App | *Flutter, Firebase* | *IITD Hackathon Challenge* | *Hostel Winner* · Mar. 2023
- Conceptualized and executed a comprehensive solution, the Hostel App, designed specifically to address the diverse needs of IITD's hostel residents, utilizing the Flutter framework.
- Effectively managed complex application states by implementing advanced Flutter patterns and techniques, ensuring a seamless and responsive user experience.
- Empowered users to raise queries or lodge complaints effortlessly through intuitive features, providing a direct channel for communication with hostel management. Additionally, integrated a real-time mess menu display for user convenience, enhancing the overall hostel experience.

PROJECTS

Retinal Fluid Segmentation | *Prof. Souvik Chakraborty (IIT-D)* | *Dept. of Applied Mechanics* · 2021
- Utilized 3-D convolutional neural networks to analyze Optical CT images.
- Employed a deep learning-based segmentation algorithm for precise diagnosis and treatment of patients with retinal fluid.
- Achieved outstanding results with the fully implemented 3D convolutional network, boasting a remarkable segmentation accuracy of 99.56%, a Kappa coefficient of 98.47%, and a robust F1 score of 95.50% for retinal fluid.

Positions

Web Executive Oct. 2020 – May 2021

BSW, IIT Delhi

- Developed a CRUD-based portal using React and NodeJS with firebase DB, deployed on Apache server, to refine the application process of ongoing research projects of IIT-D
- Designed and developed multiple static web pages using HTML/CSS.

Publications

DS IN JS | *Data Structure and Algorithms in JavaScript* Nov.2020

- Wrote and Published an E-Book on Data Structure and Algorithms in JavaScript
- Sold Multiple Copies Worldwide using Amazon/Kindle

Technical Skills

Languages:Python, Java, JavaScript, C++, Kotlin, HTML/CSS, PHP

Frameworks: React, Node.js, Flutter, BootStrap, Tailwind CSS, Next.js

Developer Tools: Git, Firebase, Google Cloud Platform, VS Code, Visual Studio, PyCharm

Libraries: pandas, NumPy, Matplotlib