AMEY GUPTA

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Education

Birla Institute of Technology and Science, Pilani Campus   2019 − 2023
Bachelor of Engineering (Honours.) in Electronics and Instrumentation   *Pilani, Rajasthan*

Experience

OneCard (FPL Technologies)   June 2023 − Present
Backend Software Engineer   *Pune, Maharashtra*
- Responsible for **building, testing and integrating REST APIs** for a stand alone **Java Micronaut** application **OneMerchant** from ideation to production with **100% test coverage**
- Performed **high level database and query otimizations** in **Clickhouse**, bringing the most expensive **query response time from 19 secs to 1.8 secs** using aggregations and internal data optimizations
- Created a new Log-in/Log-out system for the application using **AWS Cognito**, handling sessions in the **AWS ELB** and maintained a **RBAC** policy using **Casbin**, documented the same to be used in other systems

William O'Neil India   January 2023 − June 2023
Quantitative Trader Intern   *Bangalore, Karnataka*
- Responsible for **researching and developing time efficient algorithms in Python for quantitative trading** strategies based on technical indicators
- Wrote several **Index Beating** algorithms for multiple strategies, **backtested and deployed them for investment**

Microsoft India   May 2022 − July 2022
Software Engineer Intern   *Hyderabad, Telengana*
- Collaborated with Bing Travel Destinations Team to enhance data quality on Bing Travel Hub to **develop HitApps for UHRS Crowd-Sourcing Platform** to gather data on more than **50,000 destinations**
- Extracted key details like Destination Type, Best Time to Visit, and Ideal Stay Duration from crude crowdsourced data
- **Implemented robust data processing algorithms** to filter out spam and low-quality responses and achieved a high **coverage rate of 98.76**% with **100% precision** for top destinations and 90% for others.

CSIR-CEERI   May 2021 − July 2021
Research Intern   *Chennai, Tamil Nadu*
- Worked on a research paper at the **Embedded Vision & Machine Learning** Lab under Senior Scientist Suriya Prakash J, researching on and developing various texture classifiers using **Neural Networks**, Gabor Filters and Wavelet Transforms for Feature Extraction in **Image Classification**

Projects and Publications

Automating Transactions on Ethereum | ☐ *D3-Mandates*   **2023**
- Built an automation protocol for systematic investments on the **Ethereum Network**
- Users could choose a basket of assets and **automate periodic transactions on it without the need of providing a signature** each time
- Secured prizes by Arbitrum and Scroll zkEVM at the **ETHIndia'23 Hackathon**

Research Paper | ☐ *Comparitive Review of Machine Learning & Deep Learning Techniques for Texture Classification* **2022**
- Researched on improving machine learning and deep learning texture classifiers by implementing a gabor filter and discrete wavelet transform based feature extractor

Task Manager REST API | ☐ *Tasker API*   **2020**
- Built a **REST API** for a Task Manager Application with all **CRUD** operations supported using **Node JS**, Express JS and various other Javascript Libraries along with **MongoDB** as the database
- A fully functional API with various authorized routes for adding, deleting, updating and listing tasks and also routes for the user to update his/her information and to change their credentials and implemented their programs

Tools and Technologies

Python, Java, C/C++, Javascript, HTML/CSS, NodeJS, Git, Blockchain, Ethereum, Redis, ClickHouse, Postgres, MongoDB, Micronaut, SpringBoot, Junit, Locust, AWS, Docker, Kubernetes, Express, Flask, Postman, Mockoon