

# AMEY GUPTA

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## Education

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**Birla Institute of Technology and Science, Pilani Campus**

2019 – 2023

*Bachelor of Engineering (Honours.) in Electronics and Instrumentation*

*Pilani, Rajasthan*

## Experience

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**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 optimizations** 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
- Upgraded Micronaut and Java to latest versions** for the entire codebase with **documentation about breaking changes and vulnerabilities** to be adopted by other services

**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 like RSI, Bollinger Bands, MACD, SMA, EMA and CCI
- 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**, researching on and developing **Neural Networks** with Gabor Filters and Wavelet Transforms for Feature Extraction in **Texture Classification**
- Achieved an **increase of almost 1%** in the **accuracy and precision** of the SOA by hyper-parameter fine-tuning

## Projects and Publications

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**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

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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