

# Aitik Gupta

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## EDUCATION

**Indian Institute of Information Technology, Gwalior**  
*Integrated Bachelors and Masters in Information Technology*

Madhya Pradesh, India  
*July 2018 – Expected May 2023*

## EXPERIENCE

### Software Engineer Intern

*Mercari JP | Homepage | Blog | C2C Marketplace | 20M+ MAU*

Tokyo, Japan; Onsite

*June 2022 – July 2022*

- Migrated **seller-home** microservice to homogeneously serve **web** among other clients (Android/iOS), achieving **feature parity** hinted to 38% users, enabling **faster experimentation** formerly limited by client's fixed release cycles
- Decoupled the **focal RPC** fragment logic using **hexagonal pattern** in v2 API during 4 listing microservices **merger**

### Backend Engineer Intern

*FamPay Inc. | Homepage | FinTech | 5M+ users*

Bangalore, India; Remote

*September 2021 – January 2022*

- Revamped **referral** engine with a **conditional data structure**, fixing bugs in production impacting ~130K rewards
- Implemented endpoints and 4 **HCC entities** to get user's monthly **transaction summary**, masked card, VPA, etc.
- Modularized **rewards** status engine to incorporate allocation & processing of **temporary claimed** reward conditions

### Google Summer of Code

*NumFOCUS, sub-org: Matplotlib | Project | Report | 560M+ installs*

Remote

*June 2021 – August 2021*

- Revisited library's core module to migrate from **font-first** to **text-first** approach with a **caching layer**, along with **multi-font** embedding; affecting 100% workflows (virtually the complete userbase)
- Devised a per-glyph **Font-Fallback** algorithm, letting text renderer find each by iteratively parsing further families
- Handled **Font-Subsetting** (valuable for CJK & commercial fonts), reducing output PDF/PS document sizes by 90%

### Software Engineer Intern

*RapidQuest Solutions | Homepage | Healthcare | 10K+ users*

Pune, India; Remote

*July 2020 – December 2020*

- Improved and integrated native **cross-platform C++** codebase with **Android JNI** wrappers, processing with **TFLite**
- Built a utility to improve patients' journey by facilitating 100% online **physical rehabilitation**, animating 3D characters' **armatures** using body movements, removing redundancy in angle measurements by 80% withal

## TECHNICAL SKILLS

**Languages:** Python · Golang · JavaScript · C++

**Developer Tools:** Linux · Git · GitHub · pip · npm · VSCode · PyCharm · Goland · Anaconda · Jekyll

**Frameworks | Libraries:** Django · ent · Flask · GraphQL · PostgreSQL · MongoDB · ReactJS

**Domain Knowledge:** Backend Engineering · Font/Text Rendering · Machine Learning

## PROJECTS

**SocioMark** | *FastAPI, ReactJS, MongoDB, OpenCV*

*April 2021*

- Engineered the **steganography module** which embeds/decodes a unique user\_id (SHA) inside an image in the form of 256-bit binary digits, additionally implementing the logic behind when to **encode/decode**
- Defined and developed the **backend endpoints**, their routes, model architectures and **database schema** in FastAPI
- Deployed the **server** (Heroku) and **client** (Netlify) with 3 linter checks for every pull request via **GitHub-Actions**

**VSCode-GitHub-Projects** | *TypeScript, Apollo GraphQL, Svelte*

*March 2021*

- Launched an **extension** that brings GitHub's Projects into Visual Studio Code with more than **14K downloads**
- Established persistent GraphQL communication by **polling** between 3 WebViews rendered by Svelte and GitHub

**swi-ml** | *Python Library, NumPy, CuPy*

*February 2021*

- Authored a lightweight Python library with more than **2K installs**, implementing a subset of machine learning algorithms written **from scratch** - with a **switchable runtime** backend
- Interfaces acceleration on a 1-core **CPU** backend as well as on a multitude of cores on GPU with **CUDA** backend

## PUBLICATIONS

**ActiveNet: A computer-vision based approach to determine lethargy**

Aitik G., Aadit A.

*ACM India Joint International Conference on Data Science and Management of Data*

*January 2021*