Aitik Gupta

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EDUCATION

Indian Institute of Information Technology, Gwalior — Madhya Pradesh, India
Integrated Bachelors and Masters in Information Technology — *July 2018 – Expected May 2023*

St. Xavier's Sr. Secondary School — New Delhi, India
Central Board of Secondary Education (10th and 12th) — *August 2004 – May 2018*

EXPERIENCE

Backend Engineering Intern — Bengaluru, India; Remote
FamPay Inc. | Homepage | FinTech | 5M+ users — *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 — Remote
NumFOCUS, sub-org: Matplotlib | Project | Report | 560M+ installs — *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, allowing text renderer to parse further families until a glyph is found
- Handled **Font-Subsetting** (valuable for CJK & commercial fonts), reducing output PDF/PS document sizes by 90%

Software Engineer Intern — Pune, India; Remote
RapidQuest Solutions | Homepage | Healthcare | 10K+ users — *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 · JavaScript · C++
Developer Tools: Linux · Git · GitHub · pip · npm · VSCode · PyCharm · Anaconda · Jekyll
Frameworks | Libraries: Django · Flask · GraphQL · PostgreSQL · MongoDB · ReactJS · Node.js | TFLite
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
- **Continuously** deployed the server (Heroku) and client (Netlify) with linter checks for every PR via **GH-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 **9K downloads**
- Established persistent communication by **polling** between WebView rendered by Svelte and GitHub GraphQL API

swi-ml | *Python Library, NumPy, CuPy* — *February 2021*
- Authored a lightweight Python library with more than **1.5K installs**, implementing a subset of machine learning algorithms written **from scratch** - with a runtime **switchable backend**
- Interfaces single-core **CPU** accelerated backend as well as **CUDA** accelerated backend on multitude cores of GPU
- Pursued **test-driven** development to write **object-oriented** and clean modular code along with **unit tests**

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*