

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

St. Xavier's Sr. Secondary School
Central Board of Secondary Education (10th and 12th)

New Delhi, India
August 2004 – May 2018

EXPERIENCE

Software Engineer Intern

Remote

Retrera Inc. | [Homepage](#)

July 2021 – August 2021

- Built a responsive self-service onboarding platform, scaling to 2K vendors daily; with ReactJS, GraphQL, Flask
- Integrated internal Slack bots and Google Analytics to programmatically track **per-endpoint** conversions

Google Summer of Code

Remote

NumFOCUS, sub-org: Matplotlib | [Proposal](#) | [Blogs](#) | [Report](#)

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

Remote

RapidQuest Solutions (previously Code Heroku) | [Homepage](#)

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 for clients based in United States, to animate 3D characters and their **armatures** using their body movements, also removing redundancy in angle measurements by 80%

TECHNICAL SKILLS

Languages: Python · JavaScript · C++

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

Frameworks | Libraries: Flask · FastAPI · GraphQL · MongoDB · ReactJS · Node.js | TFLite · Tailwind CSS

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 **5.5K 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 ([PyPI link](#)), 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