

# 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

### Explorer Fellowship at Major League Hacking

*Collaborated with Fellows all around the world over 3 hackathon sprints.*

Remote  
February 2021 – April 2021

1. SocioMark - A FARM stack social media platform assuring data authenticity using steganography
2. PoseRunner - Endless 3D runner game built with Three.js, integrated with PoseNet
3. VSCode-GitHub-Projects - An extension that brings GitHub's Projects into VSCode using GraphQL and Svelte ( more than [5K downloads](#) )

## EXPERIENCE

### Software Engineer Intern

*Retrera Inc. | [Homepage](#)*

Remote

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

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

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, 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

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

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 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

- Devised the steganography module which embeds/decodes user\_id (SHA) inside an image in the form of 256-bit binary digits, also 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

### swi-ml | [Python Library](#), [NumPy](#), [CuPy](#), [Matplotlib](#)

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

### E-RotaNet | [Python](#), [TensorFlow](#), [Flask](#), [Documentation](#)

July 2020

- Developed a modular end-to-end library to rotate images as per human-perception via regression/classification

## PUBLICATIONS

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

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

Aitik G., Aadit A.

January 2021