

NAMAN DANGI

+1-4706620962 | namandangi@gatech.edu | www.namandangi.live | linkedin.com/in/namandangi | github.com/namandangi

EDUCATION

Georgia Institute of Technology, Atlanta GA
Master's of Science in Computer Science

August 2022 - Present

SKILLS

Languages: Java, C++, C, Python, JavaScript, TypeScript

Tools & Frameworks: HTML, CSS, SCSS, Node.js, React.js, Next.js, Redux, Material UI, Bootstrap, Chakra UI, Tailwind, Git, MongoDB, Mongoose, MySQL, PostgreSQL, Knex, Sequelize, Redis, Socket.io, Fabric.js, Puppeteer, Electron.js, Mocha.js, Chai.js, NYC, Jest, jQuery, Cheerio.js, Valgrind, Docker, CI/CD, CircleCI, AWS EC2, S3, Linux, Figma, LaTeX, Unity, Blender, Numpy, Pandas, Tensorflow, Keras, Pytorch, Flask, Matplotlib, Seaborn

Relevant Coursework: Object Oriented Programming, Data Structures, Analysis of Algorithms, Advanced Algorithms, Database Management System, Operating System, Computer Networks, Compilers & System Programming, Machine Learning, Deep Learning & AI

WORK EXPERIENCE

Softsensor.ai | Software Engineer

August 2020 - March 2022

- Led a team of **10+ members** to develop an infrastructure for supporting the clinical trial of a drug **under approval from the FDA**.
- Devised a mechanism for an efficient application of image processing filters to gigapixel whole-slide-images, **reducing the time required for filtering by about 45%** using **CanvasAPI, Fabric.js, Paper.js, Flask, & OpenCV**.
- Developed a pipeline to support the ingestion & processing of **over 30,000** medical images directly over the web browser, where images ranged from a **few MBs to several GBs (5GB+)** in size using **OpenSeaDragon, S3, EC2, Electron.js, & LibVips**.

DJ Unicode | Open Source Fellow

January 2020 - July 2020

- Ideated and implemented an **open-source** portal for a student organization to boost the outreach of their Alma mater.
- Managed complete ownership of the **tagging system & user forums**, helped set up & maintain infra such as **CI/CD workflows, Heroku deployment scripts**, API documentation, & logging using **GitHub Actions, ApiDoc.js, Morgan, & Winston**.
- Structured mongoose schemas, built backend controllers, wrote unit-tests, handled integration with React-client using **Node.js, Mongoose, Passport.js, Mocha.js, Chai.js, NYC, & React.js**.

Mach15 Edge Technologies | Software Engineering Intern

August 2019 - October 2019

- Worked on an e-commerce and marketing website for a startup promoting emerging musicians, artists & bands.
- Wrote **unit tests** covering **90%** of the backend controllers using **Mocha, Chai & Nyc**. Setup **CI/CD** pipelines using **GitHub Actions**.
- Constructed the database schemas, handled server-client integration, & built REST APIs using **ES6, Node.js, React.js, & PostgreSQL**.

PROJECTS

Software Engineering & ML | Medical Imaging Portal

- Developed a web-based viewer for microscopic images (pathology: **whole-slide imaging**) which involved rendering and manipulating high-resolution **deep zoomable images** over the cloud using **OpenSeaDragon, S3 & EC2**.
- Built an **image annotation tool** to support different user-aided **multi-layer image marking operations** like free-hand sketching, resizable geometric shapes, footnotes & overlaid **predictions like segmented regions, tumor counting, anomalies related to cell shape, size, count**, etc. by different **Deep Learning** models directly over the image using **Fabric.js, CanvasAPI, & Paper.js**.

System Engineering | Buffer Manager System

- Engineered a **thread-safe** buffer manager system that implements the **scan-resistant 2Q replacement** strategy & is capable of handling over **40,000 concurrent** page fix and unfix operations across **8 threads**.

Computer Vision & Image Preprocessing | Whole Slide Imaging

- Researched & implemented **over 20** different image-thresholding techniques for preprocessing WSI patches. Trained Deep Learning Models for segmenting tumors, counting lymphocytes, & localizing contours, achieving **IOU scores over 90%**.

Miscellaneous [github.com/namandangi]

- Over **40 projects** on GitHub, built for personal learning, coursework & competitions.

PUBLICATIONS

- Presented "Performance analysis of different deep neural architectures for automated metastases detection of lymph node sections in hematoxylin & eosin-stained whole-slide images" at the second Congress on Intelligent System organized by the Soft Computing Research Society & published in the **Springer Book Series**, "Lecture Notes on Data Engineering & Communications Technologies". DOI: 10.1007/978-981-16-9113-3_62
- Presented "Filtering & preprocessing of hematoxylin & eosin-stained whole-slide images of lymph node sections" at the International Conference on Advances in Computer Engineering & Communication Technology & accepted for publication in the **Scopus Indexed Journal**, "Journal of Physics: Conference Series".

EXTRACURRICULARS

- **IBM:** Secured a **9.81 CGPA** in IBM's Advanced Technology Course (AI & ML track).
- **DJ Unicode:** Co-Mentored a team of **7 sophomores** on a semester-long **full-stack** project for **over 5 months**.