NAMAN DANGI

(470)-662-0962 | namandangi@gatech.edu | www.namandangi.live | linkedin.com/in/namandangi | github.com/namandangi

EDUCATION

Georgia Institute of Technology, Atlanta GA **Aug'22 - Present**
Master's of Science in Computer Science **(GPA: 4.0/4.0)**
- Graduate Teaching Assistant for CS 4261: Mobile Application & Services

SKILLS

Languages: Java, Python, C++, C, JavaScript, TypeScript, R
Server Side: REST, GraphQL, AWS, NodeJS, ExpressJS, Flask, WebSockets, ElectronJS, CI/CD, Unit & Integration Testing
Client Side: HTML, CSS, SASS, jQuery, ReactJS, Redux, NextJS, WebPack
Database: MongoDB, MySQL, PostgreSQL, Redis, PostGIS
Graphics: WebGL, OpenSeaDragon, FabricJS, ThreeJS, Unity3D, Blender3D, ClipStudioPaint
Tools: Git, Bash, Linux, Docker, Kubernetes, CircleCI, Mocha, Chai, Figma, Valgrind, Tensorflow, PyTorch

WORK EXPERIENCE

Softsensor.ai | *Software Engineer* **Aug'20 - Mar'22**
- **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 **React.js, OpenCV, CanvasAPI, Fabric.js, Paper.js, & Flask**.
- 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 **Node.js, OpenSeaDragon, AWS S3, EC2, Electron.js, & LibVips**.

Unicode | *Software Engineer (Open Source)* **Jan'20 - Jul'20**
- Ideated & implemented an **open-source** portal for a student organization to boost the outreach of their Alma mater.
- Structured MonogDB schemas, wrote backend controllers & unit-tests, handled integration with frontend using **Node.js, React.js, MongoDB, Passport.js, Mocha.js, Chai.js, & NYC**.
- Resulted in about **45% increase** in the number of students applying for a higher education degree abroad with a **cumulative decrease** in money spent by students on counseling **by $20,000**.

Mach15 Edge Technologies | *Software Engineering Intern* **Aug'19 - Oct'19**
- Worked on an e-commerce & marketing website for a startup promoting emerging musicians, artists & bands.
- Wrote **unit & integration** tests covering **90%** of the backend controllers & setup **CI/CD** pipelines using **Mocha.js, Chai.js, & CircleCI**.
- Constructed the database schemas, handled server-client integration, & defined **REST APIs** using **Node.js, React.js, & PostgreSQL.**

PROJECTS

Medical Imaging Portal | Software Engineering & ML
- Developed a web-based viewer for **microscopic images** (pathology: **whole-slide imaging**) which involved rendering & manipulating high-resolution **deep zoomable images** over the cloud using **React.js, Material-UI, OpenSeaDragon, AWS S3 & EC2**.
- Built an **image annotation tool** to support different **user-aided 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 **multi-layer images** using **React.js, Node.js, Flask, Tensorflow.js, Fabric.js, CanvasAPI, & Paper.js**.

Master Information Portal | Software Engineering
- Worked to support several features like a **quora-style Q&A forum**, **upvoting/downvoting system**, **tag-based flagging** for topics, **notification & subscription** system for different events, **user profile & direct messaging**, etc.
- 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**.

Buffer Manager System | System Engineering
- 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 & unfix operations across **8 threads**.

Whole Slide Imaging | Computer Vision & Image Preprocessing
- 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%**.

RESEARCH

- Working on the **auto registration** of multiple whole-slide images & **processing** of **pixel-level information** of cells in **real-time from spatial data** for analyzing the images for the presence of certain stains on cells with Prof. David Gutman from BioMedEng@GT.
- 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 & published in the **Springer Book Series**, *"Lecture Notes on Data Engineering & Communications Technologies"*. **DOI:** *10.1007/978-981-16-9113-3*$_{62}$

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**.