Tanvi Karandikar

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Education

Carnegie Mellon University   Pittsburgh, PA
Master's in Computational Data Science (Systems Track)   Aug 2022 - Dec 2023

International Institute of Information Technology   Hyderabad, India
B. Tech (Honors) in Computer Science and Engineering, CGPA – 9.63/10   July 2018 - June 2022
Dean's List Award for Academic Excellence (all semesters), Batch Best All Rounder

Technical Skills

Languages: C, C++, C#, SQL, JavaScript, Python, MATLAB, Bash, HTML/CSS
Tools/Frameworks: MongoDB, Git, Blender, Unity, OpenGL, CUDA, PyTorch, Pandas, NumPy, React, d3 JS, Latex

Selected Coursework   (* denotes in-progress)

CS: Data Structures and Algorithms, Networks, OS, Compilers, Data Systems, Distributed Systems, Cloud Computing*
AI and Optimization: Statistical Methods in AI, Optimization Methods, Machine Learning

Experience

Adobe   Bangalore, India (Remote)
Internship   May 2021 - Aug 2021
· Designed a solution to extend Adobe's Liquid Mode document reader feature to provide personalised navigation for long financial documents as per the customer's requirement. Work led to a publication, as well as a patent filed.
· Coded and delivered an end-to-end pipeline of the solution using ReactJS and Flask.

Projects

Relational Database | C++   Fall 2021
· Developed a relational database in C++ that supports assignment and non assignment queries, indexing using B+ trees, and sorting using 2-phase merge sort.

Compiler for Racket Programs | Racket   Spring 2022
· Implemented a nanopass compiler to compile Racket programs to x86-64, with support for functions and conditionals.

Multithreading Simulations | C   Fall 2019
· Simulated a cab booking and college mess systems using mutex locks, semaphores and process synchronization.

Linux Shell | C   Fall 2019
· Implemented a command line interface based on the Unix Bash shell with multiple commands per line, signal handling, and chained redirection and piping.

Custom Video Games   Spring 2021
· Designed and coded a third person shooter game with custom 3D models in WebGL and created a cinematic [trailer](#). Also coded an escape game in OpenGL with a procedural maze including obstacles, and rewards.

Research Projects

Honors Research Student at **Precog, IIT-Hyderabad** under [Dr. P Kumaraguru](#)   May 2020 - May 2022
· Characterized and classified different classes of users on Twitter during Indian elections. Two publications.
· Analysed India's COVID-19 vaccination drive and identified inequities against the rural population.

Independent Study at **Robotics Research Center, IIIT-Hyderabad** under [Dr. KM Krishna](#)   Dec 2020 - Dec 2021
· Developed a synthetic data generation [pipeline](#) for multi-layered layout estimation in warehouses. One publication.

Selected Publications

DynamicTOC: Persona-based Table of Contents for Consumption of Long Documents	[NAACL 2022](#)
Monocular Multi-Layer Layout Estimation for Warehouse Racks	[ICVGIP 2021](#)
"I'll be back": Examining Restored Accounts On Twitter	[WI-IAT 2021](#)