UMANG GUPTA

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EDUCATION

Singapore University of Technology and Design | GPA 4.46/5.0, Honors List   Sept. 2020 – May 2024
Bachelor of Engineering in Computer Science, Minor in Artificial Intelligence

Stanford University | International Honours Programme   Jun 2023 – Aug 2023

Relevant courses: Data Structures and Algorithms, Operating Systems, Concurrency, Database, Networks, Machine Learning, Artificial Intelligence, High Performance Computing

Certfication: (Pursuing) Google Machine Learning Engineer

WORK EXPERIENCE

Grab   Jan 2023 – May 2023
Software Engineer Intern | Kotlin, Java, Git, RxJava, Dagger, Android Studio
- Reduced Grab Driver Android app debugging time by 45% with a custom TCP socket message logger.
- Boosted Grab Driver activity by 25% through complete Android app development of a targeted incentivization feature.

PROJECTS

⬈ HPC-Enhanced Animation | Python, OpenGL, Slurm, HPC   Jul 2023 – Aug 2023
- Orchestrated seamless integration of the innovative animation methodology from the research repository into the HPC cluster setup, harnessing parallel processing for efficient rendering and visualization tasks.
- Worked under Professor Steve Jones, Director of HPC @ Stanford

Deepfake Audio Detection | Python, PyTorch, SciPy, Signal Processing   Apr 2023 – Present
- Leading a team of 8 to research and implement multiple audio deepfake detectors
- Working with Professors from SUTD and mentor from Singapore HTX

⬈ Dygnostic | Ruby on Rails, JS, HTML, Python, GCP, Postgresql, React, Cucumber, Rspec   May 2022 – Aug 2022
- Led a team of 6 to develop a web app to automate TSH Group's machine inspection to attain 30% time reduction
- Utilised Cloud Vision to automatically analyze quality of label on the machine components
- Recognized as the best architecture for implementing REST APIs and microservices
- Followed BDD and TDD, succeeded as the best tested software in 15 projects by conducting unit and e2e testing

⬈ RDTonUDP | Python, Networking, TCP/UDP, Git   Sept 2022 – Oct 2022
- Designed and implemented a congestion-controlled, pipelined Reliable Data Transfer (RDT) protocol over UDP, enabling secure text file transfer across unreliable networks.
- Successfully achieved 0 crashes in the program, thoroughly tested on remote machines with seamless server and client execution on both same and different machines.

⬈ VoiceBus | Swift, IOS, Machine Learning, Git   Dec 2021 – May 2022
- Led a team of 4 under direct mentorship of Apple's Systems Engineer to develop a full-stack iOS voice enabled bus information app for the visually impaired
- Applied machine learning to create text-to-speech and speech recognition engines for the app
- Succeeded as the only app to receive positive user feedback, and to publish the app on App store
- Winner of Swift Inclusive App Development Hackathon 2022

⬈ HawkerGO! | Java, Android, Google Firebase, Junit, Git   Feb 2022 – Apr 2022
- Led a team of 6 to develop a full stack Android application, to view and review hawker stalls and hawker centres in Singapore supporting local stores not available on Google Maps
- Ranked 4th among over 200 students for innovation and architecture of the app

⬈ Who Wants to be a Millionaire | C++, Git   Sep 2019 – Oct 2019
- Developed an online version of "Who wants to be a millionaire" using C++
- Recognized as top 5 C++ projects among 150 students

AWARDS & ACCOMPLISHMENTS

The Jyoti and Aditya Mathur Environmental Award   SUTD
Received for organising first sustainability themed design thinking hackathon of SUTD with 200 applicants   Mar 2022

The Design and AI in the Data Driven World Challenge   SUTD X DBS
Won 500 SGD in pitching an AI powered credit card recommendation engine in Paylah App   Sept 2021

APPENDIX

Technical Skills

Languages: Languages: Python, Java, JavaScript, C/C++, R, SQL, Swift, Kotlin, Ruby, HTML/CSS, Alchitry
Frameworks: JUnit, React, Spring Boot, Selenium Rails, Sinatra, Rspec, MongoDB, Dagger
Developer Tools: Git, Docker, Jupyter Notebook, VSCode, Android Studio, Xcode, Google Cloud Platform
Other Skills: Software Design, Software Architecture, UML, Software Testing, CI/CD, Parallel Computing, High Performance Computing, Machine Learning, Data Science
Libraries: Multiprocessing, MPI, NumPy, Pandas, Scikit-Learn, TensorFlow, PyTorch, Matplotlib, OpenAI, Da-vinci, Cryptography, Socket

Other Projects

LectureGenie | Python, Open AI, Da-vinci, Git   Apr 2023 – Apr 2023
- Created an AI Telegram bot to convert youtube links and lecture videos to question and answers
- Uploaded the question answers to notion and shared custom link
- Created the telegram bot in 15 hours for AISG Penta Hack, secured top 10 position among over 30 teams

Rewards4U | Python, AWS SageMaker, LambdaMART, Git   Jan 2023 – Jan 2023
- Created a data-driven payment service recommendation engine with AWS SageMaker and LTR algorithm
- Optimized payment service ranking with LambdaMART to prevent errors and improve relevance
- Developed an ML-powered API for seamless payment service comparison and maximum rewards.

Secure File Transfer | Python, Cryptography, Git   Jul 2022 – Aug 2022
- Implemented a secure file upload application from a client to a secure file server ensuring Confidentiality, Integrity, Authentication and Preventing Replay Attack
- Won best program award out of 250 students for fastest secure encrypted file transfer

Shell | C, Git   Jun 2022 – Jun 2022
- Created shell to find files, change directory, count lines, check daemon processes and show available commands
- Succeeded as the fastest coder to create shell in 12 hours among 250 students with no crashes from auto-testing

FDM5K | Alchitry, Lucid, FPGA, Git   Feb 2022 – Apr 2022
- Led a team of 8 to develop a hardware game inspired by Bishi-Bashi arcade game
- Won 5th place among over 200 students for hardware quality, effectiveness of datapath, complexity of game

Pacman | Python, Git   Jul - 2022 – Aug 2022
- Developed a copy of Pacman game using Python within 15 hours
- Hailed as the best game developed in cohort of 550 students

References

Steve Jones | Director, High Performance Computing Center (HPC) @ Stanford   HPC Course Professor
Gokul G | Software Engineer Manager II @ Grab   Manager
Natalie Agus | Senior lecturer @ ISTD, SUTD   Computational Structures & OS Course Professor
Tyler McDaniel | PhD, Sociology @ Stanford   Data Science Course Professor
Bernard Ee | Senior Lecturer @ SUTD   Academic Mentor