

# 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, Data Science  
**Certification:** (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 development of an incentivization feature.
- Increased Driver jobs by 10% by manipulating the matching algorithm to change filters after a specific period

## PROJECTS

🔗 **HPC-Enhanced Animation** | Python, OpenGL, Slurm, HPC, Apptainer, Docker, Anaconda Jul 2023 – Aug 2023  

- Orchestrated seamless integration of animation methodology from Meta's research into HPC cluster, harnessing parallel processing for efficient rendering and visualization tasks.
- Worked under Professor Steve Jones, Director of HPC @ Stanford

🔗 **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.
- Achieved 0 crashes, tested on multiple different remote linux machines

📺 🔗 **VoiceBus** | Swift, IOS, Machine Learning, Git Dec 2021 – May 2022  

- Led a team of 4 under Apple Engineer to develop a full-stack IOS voice enabled bus info app for visually impaired
- Fine-tuned text-to-speech and speech recognition engine
- Succeeded as the only app to receive positive user feedback, and publish 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 app, 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

🔗 **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

## 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