

Matthew Li

[corrade.github.io](https://github.com/corrade)

Software engineer with a strong interest in games, networked systems and high performance code. Computer science graduate, amateur illustrator. Australian citizen currently living in Sydney but open to relocation!

C++ Unreal Netcode Unity C# Python Git

EXPERIENCE

R&D Intern @ VMware

Feb. 2022 - Jul. 2022 (6 months)

- Worked on the backend of tools for creating and packaging VMs, focusing on implementing RESTful APIs. C# .NET
- Helped to design and write the frontend of [Imager](#), a tool for creating golden image VMs. Imager entered the top half of VMware's most downloaded experimental tools within months of release. Angular TypeScript CSS
- Followed the agile methodology in a small team working hybrid. Jira Bamboo Git

Tutor for Game Development @ University of New South Wales

Sep. 2022 - Nov. 2022 (3 months)

- Assisted with ideation, graded deliverables, provided detailed feedback and handled grievances. Unreal
- Independently organised and ran a live Q&A with an industry professional.

EDUCATION

University of New South Wales

2019 - 2022 (4 years)

Bachelor's (Honours) in Computer Science | First-class honours

- 2019, 2020, 2021 Faculty of Engineering Dean's Honours List

PROJECTS

Netcode: P2P Deterministic Lockstep

- Implemented a multiplayer fighting game using the deterministic lockstep networking model. Adopted a peer-to-peer architecture, utilised both TCP and UDP, handled serialisation and simulated latency and packet loss. Repository and detailed README [here](#). C# Unity
- Wrote detailed notes on netcode protocols [here](#).

Bachelor's Thesis: Interfaces in First-Person Shooter Games

- Compared four industry-standard types of interfaces for activating voice commands in first-person shooter games. Developed a 3D first-person shooter, deployed a HTTPS server for telemetry, conducted online playtesting and performed a statistical analysis. C# Unity Blender AWS (EC2) Python

Game Jams

- Participated in numerous game jams. Designed, illustrated and programmed games according to given themes while under time pressure. Placed top 8% in [GMTK Game Jam 2020](#) out of 5400+ participants. Placed fifth in graphics for [Ludum Dare 45 COMPO](#) out of 700+ competitors. Unity Godot

Miscellaneous

- Competitive programming:** Applied topics such as data structures, dynamic programming and graphs to design, optimise and debug algorithms C++
- Security:** Wrote a stripped-down version of SSL involving RSA, DH and AES C++ OpenSSL
- Computer graphics:** Created scenes by implementing techniques such as splines, deferred rendering and SSAO C++ OpenGL
- Operating systems:** Implemented the file syscalls and virtual memory subsystem of the educational kernel OS/161 C