

Dale Grant

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Summary

I am a game programmer based in Sydney, Australia specializing in Unity. I am currently a 3rd year Games Development student at the University of Technology Sydney about to complete my degree with a current WAM of 91.71 and 6.89 GPA.

My focus is on game design, game architecture, and physics systems with a growing skillset in particle systems. I am capable in a range of programming languages including C++, C#, python, and Java. I have completed several projects through my degree, in both small teams and large teams of 10+ people. I am very passionate about games and keen to improve my skills and knowledge of the games industry.

Education

Bachelor of Science in Games Development

2018-Present
Exp. End: Jul 2021

University of Technology Sydney

Major: Games Development

Sub-Major: Data Analytics

Awards: Dean's List (2018), Dean's Merit List (2019), Oracle Database Prize (2019)

Bachelor of Science (Honours) (Physics)

2011-2014

University of Sydney

Majors: Applied Mathematics, Physics

Honours Thesis: Absorption enhancement using dielectric gratings for thin-film solar cells

Results: 1st Class Honours

Employment

PhD Research Student

Jan 2015-Apr 2017

Australian National University, Canberra

Researched perovskite-silicon tandem solar cells with the goal of optimising their optical performance to achieve world-record efficiencies. Coded optical simulations in MATLAB/Python. Presented findings at three conferences and published a first author paper in the OSA Optical Express: DOI: [10.1364/OE.24.0A1454](https://doi.org/10.1364/OE.24.0A1454)

Masters Optoelectronics Tutor

Jun 2016-Nov 2016

Australian National University, Canberra

Tutored Masters-level university students (class of 20) during computer lab sessions in the optics of dielectric materials in the context of solar cells and the methods in which to improve the optics of solar cells.

Skills

Technical Skills

- **Programming Languages:** C# (3 years), C++ (2 years), Python (4 years), MATLAB (4 years)
- **Game Engines:** Unity (3 years), Unreal 4 (1 year), 3JS (< 1 year)
- **Game Architectures:** Object-Oriented, Service Locator, MVC
- **Physics Programming:** 2D/3D Engine Programming, Raycast Interactions, Custom Gravity Systems, Rigidbody-based Character movement
- **Graphics Programming:** Dynamic, Particle Systems, 3D Graphics Pipeline, Shader Programming
- **Gameplay Programming:** Player input systems, game loop programming, UI/UX Programming

Recent Projects

A Rainy Day (PC) 2020

Roles: Game Design, Game Architecture Programmer, UX Designer

Engine: Unity/C#

Misc: An isometric puzzle game that involves sliding buildings around a diorama to guide the crowd from the start to the end goal. A 4-man programmer team + 2 audio students, a capstone project for B. Sc. In Games Dev. I implemented service locator functionality for the game loop, interactables system, in-game UI, and audio system.

Sallywags (PC) 2020

Roles: Game Design, Game Programmer, Menu Designer

Engine: Unity/C#

Misc: A top down party game where up to 4 players command a pirate crew to hunt for hidden treasure, fight enemies, and cause mayhem! A 14-man team for a student society run project developed over 7 months. I implemented the menu system, character select system, and the player input system. I directed the game design decisions of the team.

AGP Project (PC) 2020

Roles: AI Programmer, Game Programmer, VFX Programmer

Engine: Unreal 4/C++

Misc: A 2-person project for an Advanced Games Programming subject, where we made a wave-based, online first-person shooter with procedural levels and difficulty settings. I implemented a Jump Point Search algorithm for pathfinding, variable difficulty settings that affect enemy number and rarity, and Niagara visual effects for polish.

Ozymandias (PC) 2020

Roles: Game Design, Game Programmer, Environment Design

Engine: Unity/C#

Misc: A turn-based city builder where you run a town of fantasy adventurers. A 6-man team for a capstone project for B. Sc. In Games Dev. I implemented the shaders for the environment, water shader, the map layout, the day-night cycle, and boids functionality.

See Itch.io for more projects!

Other

- RSA/RCG Certified (2019)
- Treasurer of the UTS Gamer's Guild (2019)
- Favourite Games: Super Smash Bros. Melee, Banjo Kazooie, Overwatch, Ori and the Blind Forest, Demons Souls, Mario kart DS