**AHMED** **HILALI**

**GitHub:** <https://github.com/monstrobishi>

**SUMMARY**

I am a passionate and friendly software developer from New Zealand. I specialise in the fields of blockchain, 3D graphics and mobile development. I enjoy experimenting with emerging technologies and have worked on a large number of commercial projects. I am constantly immersing myself in something new and I have a passion for learning.

**SKILLS**

* Strong proficiency in:
  + Native iOS and Android SDKs
  + React, ReactNative and Node JS
  + C++ (templating and generic programming), C, Objective C and JavaScript
* Experienced in blockchain and IoT devices
* Experience with C#. Cocos2D, Unity, Python and Bash scripting
* Expert in the GLSL shading language and the OpenGL API
* Strong knowledge of linear algebra and 3D mathematics
* Experience with Direct3D and HLSL
* Experience with vectorization techniques, SIMD instructions and AOS/SOA data structures
* Native English Speaker, Arabic: Fluent, Chinese: Conversational

**COMMERCIAL EXPERIENCE**

**Senior Full Stack, Innovation Team, Rush Digital Interactive**

<http://www.rushdigital.co.nz/>

Auckland, New Zealand— 2019-2020

On the innovation team at Rush Digital I was put to the task of implementing new products and technologies for our main client. I was in charge of leading the software development, managing stakeholders and project management.

**Product Architect**

http://www.centrality.ai

Auckland, New Zealand 2018-2019

I was appointed Product Architect at Centrality to oversee the architecture over three core projects. The projects were Plug, Centrapay and Cennznet. During this time I also went through an Agile Fundamentals course, served as a Scrum Master and helped enforce Agile practices in the company.

**Accomplishments**

* Lead several development teams in enforcing Agile development practices and outlining architecture.
* Oversaw the technical architecture of three core projects; Plug, Centrapay and Cennznet.
* Furthered my knowledge and experience in Blockchain technology.

**Senior Full Stack Developer**

http://www.centrality.ai

Auckland, New Zealand 2016-2018

At Centrality I was given many responsibilities including but not limited to developing mobile applications for iOS, Android using Swift, Java and ReactNative. I was called upon frequently to mentor more junior developers and lead development teams. I also learnt a lot about Blockchain technology in this role, and was viewed as a one of the most knowledgeable developers in the company when it came to Blockchain.

**Accomplishments**

* Created several commercial applications using for iOS and Android using Swift, Java and ReactNative
* Gained extensive knowledge and experience in Blockchain technology.

**Software Developer, OurDigi**

http://www.ourdigi.com.tw/

Taipei, Taiwan— 2014-2016

In this role I was given multiple legacy and new projects to maintain all with their own technology and infrastructure. A desktop windows application, an iOS application, and several Unity applications, amongst others. I communicated with the client directly and worked in an office of only Chinese language speakers. Hence I was able to improve my ability in the Chinese language.

**Accomplishments**

* Worked on several desktop and mobile applications
* Produced applications using Cocos2DX
* Produced applications using the Unity SDK
* Maintained a C# Windows Forms desktop application
* Maintained several iOS Objective applications
* Improved Chinese language ability

**Senior Developer, Solta Labs Ltd**

Auckland, New Zealand — 2013-2014

As a senior developer for Solta Labs Ltd I worked on many commercial iOS and Android projects. I was the sole developer and software architect for the majority of the projects. I also had additional responsibilities including communicating with clients and post-development support.

**Projects**

* MiTV, a video streaming interface for the Alcatel Lucent presentations in Fiji and Vanuatu
* Wisl, a taxi ordering, payment and tracking app
* Wiskit, a shopping cart aggregate startup
* Till2Go, a point of sale app ([​https://www.youtube.com/watch?v=vn\_SbfRxFwE](https://www.youtube.com/watch?v=vn_SbfRxFwE)​)
* TMES, a driver tracking system for the elderly
* Other projects (please inquire)

**Lead Engine Developer, Rush Digital Interactive**

<http://www.rushdigital.co.nz/>

Auckland, New Zealand— 2010-2013

In this role I worked on a cutting edge 3D engine for mobile devices. After a couple of years we pivoted to a 2D engine approach and integrated a JavaScript interpreter into our engine. I learnt a lot from this job and greatly honed my work ethic. Additionally, I helped create commercial software applications for Heineken, Energizer and Air New Zealand.

**Accomplishments**

* Developed and enhanced my expertise in mobile game engine technology using C++
* Worked on several commercial and in-house products
* Developed commercial visualisation tools using WebGL

**Game Developer, Landauer Games**

Remote— 2009-2011

In this position I developed the majority of the 3D rendering aspect for a space MMO (massive multiplayer online) game. The development was for a company.

based in California, USA. I was expected to handle several challenges including how to procedurally generate suns, planets and nebula in space.

**Accomplishments**

* Developed a plethora of creative effects utilising C++, Direct3D9 and HLSL
* Developed an intuitive GUI system that allowed scripting via configuration files
* Attended and facilitated regular SCRUM meetings

**Software Contractor, Devastgoedinrichter/Kantoor Planner**

Remote— 2008-2011

I worked on an immense collaborative project between an office furniture retailer and a real estate startup. The aim of Kantoor Planner was to procedurally generate office layouts in order to add value to office space realtor offerings. I was in charge of developing 3D effects in order to improve the visual output of this tool. I was also in charge of developing the core algorithm for the procedural generation of the layout.

**Accomplishments**

* Developed effects using C++, Direct3D9 and HLSL
* Developed algorithms to procedurally generate an office layout when provided with an empty floor plan

**EDUCATION**

**The University of Auckland**

Bachelor of Science (BSc) in Computer Science — Graduated May, 2012

For my final year project I was put in charge of rendering thousands of discrete particles in real time as homogenous objects using a metaball algorithm. This required the use of GLSL and GPU ray casting techniques. Developed in C++.

**PERSONAL PROJECTS**

**Realtime Open Source 3D Engine Irrlicht3D**

<http://irrlicht.sourceforge.net/authors/>

After developing several plugins and add-ons I was nominated as one of the authors for this open source 3D engine. I also obtained a reputation within the Irrlicht community for being a specialist in cutting edge 3D graphics.

**Realtime Software Ray Tracer for Irrlicht 3D**

In my spare time I developed a realtime software ray tracer for Irrlicht3D using C++. The ray tracer allows you to use the same API that you would for the OpenGL/Direct3D drivers but would output a ray traced result with real ray traced reflections and shadows. The ray tracer uses multithreading, BVH trees and SSE2 SIMD instructions to squeeze every inch of performance out of modern PCs.