LACHLAN FORD

www.cse.unsw.edu.au/~ljef079/site | http://github.com/fordacious | fordyfor@hotmail.com | http://au.linkedin.com/pub/lachlan-ford/45/567/804

PROFESSIONAL EXPERIENCE

2014 - 2015 Software Engineer Intern, *Microsoft,* Under *Kiran Dowluru*, kirand@microsoft.com

- Currently holding this position. Under NDA. Project involves Big Data and applications of Machine Learning.

2010 – Present Content Engineer, *Smart Sparrow,* Under *Zack Belinson*, zack@smartsparrow.com

- Joined as the company was newly spawned from a research group at the University of New South Wales and have grown with it as it has transitioned from new startup with < 10 employees to an established intermediate company with over 40 employees and offices in Australia and the US. I have outlined notable achievements below.
- Worked to create many flash and HTML5 based educational simulations for various educational institutions including:
    - UNSW Medicine and Mechanical Engineering.
    - The Arizona State University "Habitable Worlds" online course. Was responsible for most of the development of flash simulations in the course.
    - Many more including Monash University, Open Universities Australia, Macquarie University, DeVry and University of Tasmania.
- I played a major role in researching and developing methods in which to create content in HTML5 and convert content from flash to HTML5, in order to allow us to allow customers to produce content for the ever increasing number of mobile devices. As part of this I developed an HTML5 canvas game and rendering library for canvas, which had a similar API to flash.
- Implemented a software renderer for a solar system simulation with dynamic lighting and shadows (planets shadowed others), which ran in-browser, on the iPad 1.
- Have also contributed extensively to the frontend and backend systems of the company's main product, the Smart Sparrow Authoring Tool

2013-2014 SDET Intern, *Microsoft,* Under *Kiran Dowluru*, kirand@microsoft.com

- Developed an end to end proof of concept pipeline for gathering, analyzing and visualizing runtime telemetry for a specific feature of Windows. My project was an experiment to test the new role of the "Quality Engineer" which was put into practice the month after this internship. A more refined data pipeline was developed for general features after I returned to Australia. The pipeline is now in use across the Operating Systems group. I employed this pipeline extensively in my second internship.

2008 (3 weeks) Developer, *Shift Interactive,* Under *Jamie Harbison*

- Created flash banner ads and worked on integrating a high score table into a flash based Facebook game

EDUCATION

2010 - Present	Bachelors of Computer Science with Honors, *University of New South Wales*
2010	Higher School Certificate, *Normanhurst Boys High School*

SIDE PROJECTS AND EDUCATIONAL ACHEIVEMENTS

GasTap www.gastapgames.net	Current project, "Relic", https://github.com/fordacious/relic GasTap is a small games studio started out of high school by a few friends and myself. We have participated in two game jams in the past (2012 and 2013 global game jams) We are currently developing two fully fledged games. jams). We are currently developing two larger games. GasTap has provided us with may interesting problems areas, including real time game networking, graphics rendering, collision detection, enemy AI, web design, game design, and keeping each other motivated.
Educational Achievements and Experience	2006: 3rd place in ACMI "Screen-It" competition for Game Development with my flash platformer "Water Balloon" 2007: 2nd in Australian digital design competition for open animation 2009: Achieved distinction in AIO 2009: Attempted to visit every train station in Sydney in 24 hours ala TSP 2009: Obtained password for the Department of Education and Training North Sydney Region network 2009: Attended NCSS camp where I was the backend manager for a social networking site called "Facepalm", which we developed over the course of the week 2009: Participated in CompClub at UNSW, a social computing group run by tutors of UNSW. Worked on interesting projects such as a persistence of vision clock made from a hard drive and "pendguino" microprocessor, an FTIR touch display screen with air hokey game and genetic algorithms to generate walk cycles for box2D creatures. 2010: Designed and implemented schools prefect voting system with 2 schoolmates. This has since become the de facto standard project for final year software students 2010: Achieved distinction in the University of New South Wales programming competition, ProgComp 2010: Shortlisted for Art Express for my final year animation project 2012: In Microprocessors course, attained full marks in final game project by implementing multiplayer between 2 boards with hand rolled communication protocol. 2012: Implemented beacon tracking system for robotics using OpenCV 2013: Attained 96/100 in Algorithms and 95/100 in Advanced Algorithms. Advanced Algorithms project consisted of researching and implementing clustering algorithms for spotting student misconceptions in e-learning data, and surveying global illumination techniques to determine their applicability to simulating global auralization. 2013: Placed 6th in year based on raw marks

University Competitions	2014: Placed 3rd in the Cyber Security Challenge 2014 (run by Telstra and the Australian Government) 2014: Placed 4th in Sydney regional ACM
Other	I have contributed two npm modules for grunt (open source Javascript task runner).

LANGUAGES, TOOLS AND SKILLS

- Versed in many languages and paradigms including: C, C++, C#, Java, Actionscript, Flex, Javascript (+ HTML 5 / CSS 3), Python, Haskell, SQL, GNU Assembler and of course brainfuck. Some experience with Erlang, and Perl. Currently learning Scala, Rust, Go, Swift and Clojure.
- Familiar with version control systems (SVN, Git), project management systems (jira), development tools (thrift, maven, grunt, tomcat, node, eclispse, visual studio), and other software (Adobe Flash/Photoshop/Illustrator/Flash Builder, Unity, OpenGL etc…).
- Have developed in Windows, Linux and OSX environments.

OTHER INTERESTS

- Parkour and rock climbing, competitive gaming (mainly Smash Brothers), playing music on violin, piano and guitar, and making digital art/animation.

OTHER REFERENCES

- Aleks Ignjatovic – Algorithms professor