ANDREW **JIANG**

Summary

• 4.5 years of experience coding at all levels, from kernel to UI

• Experienced in device driver development & debugging

• Well-versed in computer networking (TCP/IP, DNS)

• Proficient with Data Warehouse components (Amazon Redshift, Apache Spark, Apache Airflow)

• Self-motivated generalist; always excited to pick up new skills and problems to tackle

Languages

• C/C++ • Java • C# • Python
• Go • ARM Assembly • VHDL
• MATLAB • Bash • SQL

Awards

Spotlight Award
Advanced Micro Devices Inc.

Term Dean's Honours List
Fall 2015/Fall 2016/Spring 2017, University of Waterloo

Second Place and Best Design
Rocket Competition, Ryerson University

Metro Toronto Champion – Junior Division, 1st Place
Canadian Computing Competition, University of Waterloo

First Class Honours – Saxophone Level 8 Practical
Royal Conservatory of Music

Education

Candidate for Bachelor of Applied Science – Computer Engineering
University of Waterloo (Expected Completion Apr 2020)
Ranked **3**rd in class out of 102

Experience

Display Software Engineering   Aug 2017 - Dec 2017
Advanced Micro Devices (AMD) Inc.   Markham, ON

• Maintained & developed Display Core (DC), the open-source **C/C++** display driver for Linux & Windows, to support new Ryzen Accelerated Processing Units (APUs)

• Laid the groundwork for a project to optimize the hardware programming sequences in DC, reducing register programming time by up to **65%** in certain cases

• Implemented an interface across multiple kernel driver components to correctly display the Windows Blue Screen of Death for Ryzen APUs

• Upstreamed 27 commits to the mainline Linux kernel, with 12 merged as of v4.15

Backend Engineering   Jan 2017 - Present
TunnelBear Inc.   Toronto, ON

• Maintained the VPN traffic obfuscation infrastructure, deploying Tor technology with Ansible to help users in heavily censored countries (eg. China, Iran) access the open internet

• Built a new internal Relational Database system & an automated Extract-Transform-Load (**ETL**) pipeline, allowing for massive amounts of data to be queried in seconds

• Created a new set of client APIs on the Play!-based backend that reduces response size by **55%**, and adds support for clients to select VPN servers with finer granularity

Android Engineering   May 2016 - Dec 2016
TunnelBear Inc.   Toronto, ON

• Worked on all aspects of the TunnelBear VPN app with millions of active users, from the UI, to underlying services, to the lower level **native C++/Go** layer

• Retrofitted HTTP implementation, improving API request performance by **30-50%**

• Created VigilantBear, which sets up an always-on VPN connection that ensures users' web traffic will never leak outside the tunnel for maximum security and privacy

Android Platform Developer   Jul 2014 – Sep 2014
Fastboot Mobile LLC   Pennsylvania, USA

• Worked on the development and maintenance of a custom mobile OS platform for various devices specified by clients

• Created an intelligent Chromium caching mechanism to reduce build/compile times by up to **60%**

Projects

The CyanogenMod & OmniROM Projects   Jun 2012 – May 2016
Device Maintainer & Translation Lead

• Third-party aftermarket Android OS distributions with millions of users

• Maintained the **kernels, HALs, framework**, and device trees for a variety of mobile devices, providing new versions of Android long after manufacturer support ended

• Led Simplified Chinese localization efforts for a cohesive user experience

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Recommendations

Andrew has shown initiative and passion beyond our expectation for a student on many occasions. He treats the product as his own and takes responsibility to make it better. He is actively communicating with his fellow team members and helping the team in any way he can; many times he has also demonstrated his leadership skills within his team. He also shows he has the capability to learn complex technologies like the GPU driver and contributes just like how other full timers would. His enthusiasm and passion towards his work will continue to help him in any industry. His technical skills are also highly recognized among his peers, and his personality is easy to work with. Overall, Andrew has been one of the most talented and hard-working students we have seen.

Eagle Yeh
Supervisor - Sectional Manager
Advanced Micro Devices Inc.

Andrew (or Andrunior as we like to call him) has been by far the hardest-working, kindest, brightest, sociable, and most involved intern we've hired from the Waterloo co-op program.

When he first started, we had our doubts given that it was his first internship. But he came in and absolutely took charge of the TunnelBear codebase. He worked on every part of the Android application from the native C++ component to the Java/XML UI components. There was no task he shied away from regardless of how complex or foreign. Andrunior, almost to a fault, is unable to say no to anyone and is often found skillfully multi-tasking several large deliverables. Needless to say, his organization and prioritization is relatively unmatched for a student in his year.

This was one of our first experiences hiring a junior intern. However, it was quickly evident that Andrunior's technical prowess far surpassed people with a few more years of work experience. He outperformed our expectations in every way and our decision to hire him has encouraged us to take similar risks in the future.

If you don't take him, we will. So please, do us a favour and don't give him an interview.

Raed Makhlouf
Supervisor - Android Lead Developer
TunnelBear Inc.

Andrew has continued to surpass our expectations by producing high-quality code at an impressive pace. He is a very fast and interested learner who quickly applies what he has learned to whatever task he is assigned. Even with little to no supervision, nothing seems too difficult or too large of a task for Andrew - he quickly breaks down the problems, comes up with good solutions, and implements them rapidly in a well tested and documented manner as well as any full-time developer. On top of all that, Andrew is incredibly passionate, enthusiastic, fun and just a pleasure to work with. Andrew is an incredible coworker and more than makes up for his relative inexperience with his intelligence and willingness to learn absolutely anything.

Alex Laviolette
Supervisor - Backend Lead Developer
TunnelBear Inc.