

□ (614) 48454504 | Marveyem@utas.edu.au | Dinklad

September 20, 2019

Dr. Son Tran University of Tasmania College of Sciences and Engineering Newnham Campus Tasmania

Dear Dr. Tran,

My name is Evan Harvey and I am writing to express interest in the Dean's Summer Scholarship internship opportunity, in the College of Sciences and Engineering.

As an undergraduate with an aspiration for post-graduate study, a thirst for knowledge and mentorship and opportunities to apply my diverse skillset to real-world problems, I would benefit immensely from this program, and I have much to offer in return.

Succeeding as a second-year student, studying the Bachelor of Information and Communications Technologies with a GPA of 6.83, I am academically suitable for the Dean's program.

In my personal time, I contribute to free and open source software projects on GitHub, and have several years of experience in programming. I am available over the Summer period described in the listing and am eligible to enter the Bachelor of Philosophy (for which I have incidentally applied to as an add-on to my current Bachelor).

Particularly relevant to the internship's details is my experience with parsing and interpreting formal grammars. Specific technologies include Haskell's Parsec, Rust's Nom, POSIX's YACC (Bison), although I have written parsers in languages including C# and Java. I am experienced in Python, including use of Anaconda, Python environments, package management and standard library features.

In terms of domain specific tools, I have a keen interest in design, implementation and usage of software utilities used to manage the software development lifecycle, especially automation documentation, and test-driven development tools. This includes shell scripting and Unix utilities (sed, awk), version control using Git (which I use for everything), document preparation with  $\text{ET}_{\text{EX}}$ , including familiarity with Pandoc for document transpiling.

In general but especially in dynamic languages such as Python, I am a proponent of test-driven development and am familiar in working in software projects that use automated unit tests, fuzzing, code review bots, Git feature branch workflows with regression testing, and appreciate the utility of both static and dynamic assertions in production. Needless to say I am a large proponent of documentation and optimising software for *humans*, whether they are the clients, designers or developers.

More than anything else, I am keen to get a taste of the research lifecycle and participate in real project. Please find attached an unnofficial transcript of my academic record. If you require anyone in the faculty to vouch for me, I am more than happy to arrange that. I look forward to hearing from you.

Evan Harvey