

# Jason Lu

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<b>EDUCATION</b>	<b>Carnegie Mellon University</b> Bachelor of Science in Electrical and Computer Engineering Cumulative GPA: 3.89/4.00	May 2023
<b>WORK EXPERIENCE</b>	<b>Tyler Technologies</b> <i>Software Development Intern</i> <ul style="list-style-type: none"><li>Architected and built application to automate load testing an existing web application, slashing time to create mock data and execute test cycle by nearly 90%</li><li>Collaborated on Angular-based web application that gives courts the capability to guide users through filing court documents; accelerated project timeline by 3+ weeks</li><li>Implemented key user features such as Markdown support in editor, a custom scripting system for dynamic content, and ensuring mobile readiness</li></ul>	June 2020 - August 2020
	<b>Tyler Technologies</b> <i>Software Development Intern</i> <ul style="list-style-type: none"><li>Engineered proof-of-concept machine learning application to automatically extract information from legal documents, reducing user data entry time by 50%</li><li>Designed efficient and low-cost Amazon Web Services-based pipeline to process, store, and analyze large amounts of user data</li></ul>	May 2019 - August 2019
<b>CLUB EXPERIENCE</b>	<b>Carnegie Mellon Racing (FSAE Electric Car Team)</b> <i>Firmware Captain</i> <ul style="list-style-type: none"><li>Directed 4+ team members and projects within firmware department; organized and led biweekly department meetings; engaged with other teams to resolve cross-team issues</li><li>Developed firmware for new SAE J1772-compatible charging control module to enable faster and safer charging with a friendlier interface for non-technical members to operate</li><li>Obtained hands-on experience with industry-standard vehicle components such as STM32, real time operating systems, and CAN bus</li></ul>	September 2019 - Present
<b>RESEARCH EXPERIENCE</b>	<b>Computer Systems Research Lab, University of North Texas</b> <i>Co-Investigator</i> <ul style="list-style-type: none"><li>Developed a method to thwart side-channel attacks against CPU caches while preserving processor performance; initial results showed average impact of &lt; 5%</li><li>Modelled cache design and analyzed both single and multi-core cache behavior of 12 programs from SPEC and 4+ custom traces by utilizing a cache simulator called Moola</li><li>Compiled results and presented poster at two university research symposiums</li></ul>	August 2017 - August 2019
	<b>Department of Computer Science, University of Texas at Dallas</b> <i>Research Assistant</i> <ul style="list-style-type: none"><li>Investigated reverse engineering and development of exploits against x86 and x86_64 binaries; examined over 40-50 different software for use in further detailed analysis</li><li>Explored techniques to defend private program data against unauthorized modification leveraging technologies such as memory encryption and Intel SGX</li></ul>	June 2015 - August 2016
<b>SKILLS</b>	<b>Programming languages:</b> C, C++, JavaScript, Python (proficient), some exposure to .NET <b>Software:</b> STM32CubeIDE, PCAN Explorer, SolidWorks (proficient), Altium (basic) <b>Other skills:</b> Embedded software, full-stack web development, machine learning (basic)	
<b>PROJECTS</b>	<b>quark</b> - Architecture portable, monolithic, UNIX-like kernel written in C++ <b>tinylx86</b> - A small and simple emulator for emulating an Intel 80486 and associated peripherals	More projects at <a href="https://github.com/PoisonNinja">https://github.com/PoisonNinja</a>