	Tommy Theo	Work Experience
About Me	<ul> <li>I OIIIIIIY ZIIIAO (legal name: Kaida Zhao)</li> <li>Izhao451@gmail.com</li> <li>1(312)375-8295</li> <li>Personal, LinkedIn, GitHub</li> <li>Chicago, IL Open to relocation</li> <li>US citizen</li> </ul>	<ul> <li>Software Engineer, Google, SF Bay Area, CA</li> <li>Ads budgeting infrastructure team Apr 2020 – Mar 2023</li> <li>Reduced system wide resource utilization by 80% by leveraging global sharding framework, reconfiguring worker resources, and reducing extraction frequency.</li> <li>Migrated ads budgeting infrastructure to use new hierarchical budgeting entities, which enables more budgeting features.</li> <li>Combined features between DoubleClick and AdWords.</li> <li>Owned and on call for budget extractor and monetizer, vital systems for ads, which is ~80% of Google's revenue.</li> <li>Hardware/software codesign for web search team July 2018 –</li> <li>Evaluated the performance of a deep machine Apr 2020 learning transformer model for web search.</li> <li>Evaluated fleet-wide resource utilization for all web search clusters to identify bottlenecks and trends to make hardware configuration recommendations.</li> <li>CPU Diagnostics Engineer, Advanced Micro Aug 2017 – Devices (AMD), Austin, TX July 2018</li> <li>Found, reported, and root caused post-silicon hardware bugs by generating instructions to stress microarchitectural features.</li> <li>Lecturer, CS252 Introduction to Computer Fall 2016</li> <li>Engineering, UW-Madison, Madison, WI</li> </ul>
Summary	Hard-working, passionate, and confident software engineer with a graduate degree and 5.5 years of professional experience that intersects software and hardware for high performant and cost- efficient computing. Great teamwork to write clean and scalable code for fast and robust software systems. Committed to continuously learning and teaching to keep up with current technologies.	
Skills	Programming Languages: assembly, C, C++, CUDA, Java, JavaScript, MATLAB, Python, SQL, and more Programming Knowledge: build systems (make/bazel), code reviews, compilers, databases, datacenters, production software releases, version control (svn/git/mercurial),	<ul> <li>Various: Research Assistant, Teaching Assistant, Embedded Engineer, Automation Software Engineer, SDET Intern</li> <li>Researched programmable accelerators, fair resource distribution, hardware security, and Alzheimer's disease.</li> <li>Wrote scripts to automate grading programming assignments.</li> <li>Implemented, tested, debugged, and released a real-time operating system (VxWorks) for custom hardware.</li> <li>Wrote, ran, and maintained automated test cases to find bugs.</li> </ul> Projects Financial Portfolio Visualizer (devpost) <ul> <li>Upload an excel, csv, or text and visually see portfolio weight/size and performance/color.</li> <li>Try it yourself here. Example: cvs generates this portfolio viz.</li> <li>Updates in real time during market hours.</li> <li>Able to view performance from various time intervals.</li> </ul> Proximate, exploring the parallel programming design space of a multi-tile programmable hardware accelerator (pdf)
	scalability, cron scheduler, resource monitoring Programming Paradigms: high performance parallel programming (GPUs and multicores), distributed systems, OOP, and functional programming	
Education	M.S. in Computer Science from University of Wisconsin-Madison in 2015 B.S. in Electrical and Computer Engineering with Honors and with minors in Computer Science, Math, and Biology from University of Illinois-Chicago in 2014	<ul> <li>Implemented parallel workloads on different parts of a Proximate compute tile.</li> <li>Investigated scalability and speedup to improve hardware design choices.</li> </ul>
		<ul> <li>bonsal, a distributed data collection and storage system for data processing (pdf)</li> <li>Scalable data collection in a ring structure with a circular buffer for storing data and a token for synchronization logic.</li> <li>Real-time data processing in a tree structure by multicasting map requests to backends and reducing results towards the frontend.</li> </ul>