

## Xiangfeng Zhu

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CONTACT INFORMATION	3510 Murdoch Dr. Palo Alto, CA 94306 xzhu27.me	650-660-0918 zxfeng@umich.edu www.linkedin.com/in/xzhu
RESEARCH INTERESTS	Networking, Cloud Computing, Distributed System, Operating System	
EDUCATION	<b>University of Michigan, Ann Arbor</b> B.S., Computer Science <ul style="list-style-type: none"><li>GPA: -/4.00</li></ul> <b>Univeristy of California, Santa Cruz</b> B.S., Computer Science <ul style="list-style-type: none"><li>GPA: 3.94/4.00</li></ul>	Sep. 2018 - now  Sep. 2016 - June. 2018
RESEARCH EXPERIENCE	<b>Undergraduate Researcher</b> <b>Disorderly Lab, UCSC</b> <b>Advisor:</b> Prof. Peter Alvaro <i>Protocol Repair Using Lineage Graphs</i> <ul style="list-style-type: none"><li>Developed a debugging approach based on analysis of provenance data obtained during system executions equipped with correctness specifications. Our approaches require programs and their correctness properties written in a high-level declarative language.</li><li>Helped Design a standalone prototype Debugger Nemo and validated Nemo on protocols from real-world distributed bugs. Our experimental result shows that Nemo demonstrates the promise of automatic provenance-guided debugging for complex distributed protocols.</li></ul> <b>Undergraduate Researcher</b> <b>Computer Communication Research Group, UCSC</b> <b>Advisor:</b> Prof. J.J. Garcia-Luna-Aceves <i>CUP: Channel-Utilization Persistence for MAC protocols</i> <ul style="list-style-type: none"><li>Helped Professor J.J. design the first transmission strategy(CUP) for contention-based MAC protocols. This approach applies to any MAC protocols with carrier sensing, virtual carrier sensing, or priority acknowledgments.</li><li>Analyzed the efficiency of Channel-Utilization Persistence MAC protocols, such as CUP-CSMA and CUP-CSMA/CA, using Markov Chains. Presented numerical results that compare the throughput of CUP-CSMA, non-persistent CSMA, and 1-persistent CSMA.</li></ul> <b>Undergraduate Researcher</b> <b>Storage System Research Center, UCSC</b> <b>Advisor:</b> Prof. Darrell D. E. Long <i>Rogue Cell tower(IMSI Catcher) detector</i> <ul style="list-style-type: none"><li>Wrote a design document with three lab partners detailing the project and future work. Our approach includes Neighboring Cell Tower Information, Absence of Encryption and Signal Strength.</li><li>Designed an algorithm to pinpoint the location of IMSI Catchers based on received signal strength (RSS)</li></ul>	Mar. 2018 - Now  Aug. 2017 - Feb. 2018  Mar. 2017 - Aug. 2017

- Wrote C code to communicate with a SIMCOM module via AT commands and a GPS module

PROJECTS	<p><b>Fault-tolerant Scalable Key-Value Store</b> 2017</p> <ul style="list-style-type: none"> <li>• Developed a distributed, fault-tolerant key-value store that can store the amount of data that cannot fit into one single machine, using consistent hashing.</li> </ul> <p><b>Chess Puzzle Solver</b> 2017</p> <ul style="list-style-type: none"> <li>• Wrote a program that can determine if a player can force checkmate in up to 5 steps, including the moves of the opponent.</li> </ul> <p><b>Online Reservation system</b> 2017</p> <ul style="list-style-type: none"> <li>• Designed an online reservation app for Manyue Yoga Stadium, on-line payment system, and on-line community for member to share their experience.</li> </ul>
PUBLICATION	<p>1. Lennart Oldenburg, <b>Xiangfeng Zhu</b>, Kamala Ramasubramanian, Peter Alvaro, "Fixed It For You: Protocol Repair Using Lineage Graphs", <i>9th Biennial Conference on Innovative Data Systems Research (CIDR 19, to appear)</i>, Asilomar, CA, 2019 Accepted.</p>
OTHER EXPERIENCE	<ul style="list-style-type: none"> <li>• <b>CMPE107: Probability and Statistics</b> , UCSC, Grader Spring 2018</li> <li>• <b>CMPS12B: Introduction to Data Structures</b>, UCSC, Tutor Spring 2018</li> <li>• <b>CMPS12B: Introduction to Data Structures</b>, UCSC, Lab Tutor Winter 2018</li> <li>• <b>CMPS101: Algorithms and Abstract Data Types</b>, UCSC, Tutor Fall 2017</li> <li>• <b>CMPS101: Algorithms and Abstract Data Types</b>, UCSC, Grader Fall 2017</li> </ul>
AWARDS	<ul style="list-style-type: none"> <li>• <b>Dean's Honor List:</b> Fall 2016, Winter 2017, Spring 2017, Winter 2018, Spring 2018</li> </ul>
SKILLS	<ul style="list-style-type: none"> <li>• <b>Language:</b> English, Chinese</li> <li>• <b>Programming:</b> C, C++, Shell Scripting, Python, Java, JavaScript, Matlab, Bash, Limited Go</li> <li>• <b>Markup/Templating:</b> HTML, CSS, L<sup>A</sup>T<sub>E</sub>X</li> <li>• <b>Platform:</b> Mac OS, Windows, Linux</li> <li>• <b>Tools:</b> Perf, GDB, Valgrind, Make, Git, Vim, Neo4j, Docker</li> </ul>
REFERENCES	<p><b>Dr. J.J. Garcia-Luna-Aceves</b> University of California, Santa Cruz  Distinguished Professor of Computer Science and Engineering  Jack Baskin Endowed Chair of Computer Engineering  Phone: 831-459-4153 E-mail: jj@soe.ucsc.edu</p> <p><b>Dr. Peter Alvaro</b> University of California, Santa Cruz  Assistant Professor of Computer Science and Engineering  Phone: 415-813-9364 E-mail: palvaro@ucsc.edu</p> <p><b>Chris Parsa</b> University of California, Santa Cruz  Adjunct lecturer of Computer Engineering  Phone: 831-252-9033 E-mail: cparsa@ucsc.edu</p>