

## Xiangfeng Zhu

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CONTACT INFORMATION	3510 Murdoch Dr. Palo Alto, CA 94306	650-660-0918 zxfeng@umich.edu
RESEARCH INTERESTS	Networking, Cloud Computing, Distributed Systems	
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. 2015
RESEARCH EXPERIENCE	<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><li>• Wrote C code to communicate with a SIMCOM module via AT commands and a GPS module</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>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>	Mar. 2017 - Aug. 2017  Aug. 2017 - Feb. 2018  Mar. 2018 - Now

PROJECTS	<b>Fault-tolerant Scalable Key-Value Store</b> 2017 <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> <b>Chess Puzzle Solver</b> 2017 <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> <b>Online Reservation system</b> 2017 <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>
TEACHING EXPERIENCE	<ul style="list-style-type: none"> <li><b>CMPS101: Algorithms and Abstract Data Types</b>, UCSC, Tutor Fall 2017</li> <li><b>CMPS12B: Introduction to Data Structures</b>, UCSC, Lab Tutor Winter 2018</li> <li><b>CMPS12B: Introduction to Data Structures</b>, UCSC, Tutor Spring 2018</li> </ul>
OTHER EXPERIENCE	<ul style="list-style-type: none"> <li><b>CMPS101: Algorithms and Abstract Data Types</b>, UCSC, Grader Fall 2017</li> <li><b>CMPE107: Probability and Statistics</b>, UCSC, Grader Spring 2018</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	Programming: C, C++, Shell Scripting, Python, Java, Matlab, Bash Tools: Git, L <sup>A</sup> T <sub>E</sub> X, Vim, Neo4j, Docker
REFERENCES	<b>Dr. Peter Alvaro</b> Assistant Professor Computer Science Department University of California, Santa Cruz <div> Phone: +1 (415) 813 9364  E-mail: palvaro@ucsc.edu </div>