Nuda (Tony) **Zhang**

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Education

University of Michigan	*Ann Arbor, MI*
PhD Candidate in Computer Science	*Aug 2019 - Present*
Supervised by Manos Kapritsos	

Cornell University	*Ithaca, NY*
B.A. in Computer Science and Mathematics	*Aug 2015 - Dec 2018*

Peer-Reviewed Publications

PODC'20   Brief Announcement: On the Significance of Consecutive Ballots in Paxos,

*Eli Goldweber, **Nuda Zhang**, Manos Kapritsos*

Relevant Experience

University of Michigan at Ann Arbor — *Ann Arbor, MI*
Graduate Researcher — *2019 - Present*
- Investigating improvements to proof engineering workflow
- Proving performance properties of distributed systems using formal methods
- Proved weakened consensus conditions in Paxos

VMWare Research — *Bellevue, WA*
Intern — *Summer 2022 - Present*
- Formal verification of systems software

Apple — *Remote*
Intern — *Summer 2021*
- Developed a multi-partition transaction protocol for Apache Cassandra based on Egalitarian Paxos, published as a Cassandra Enhancement Proposal whitepaper
- Derived a formal proof of correctness for the protocol
- Implemented network partition simulations for prototype in Jepsen Maelstrom

Oracle — *Redwood Shores, CA*
Software Engineer — *2019*
- Work on the TimesTen in-memory database system

Cornell University — *Ithaca, NY*
Undergraduate Research Assistant — *2018*
- Work on state machine replication and Byzantine distributed transaction systems, supervised by Robbert van Renesse and Lorenzo Alvisi

Institute of High Performance Computing — *Singapore*
Intern — *Summer 2017*
- Work on cancer cell detection using computer vision techniques

Teaching Experience

EECS 591: Distributed Systems   *University of Michigan*
GRADUATE STUDENT INSTRUCTOR   *2021*

CS 4820: Introduction to Analysis of Algorithms   *Cornell University*
TEACHING ASSISTANT   *2018*

CS 2110: Object-Oriented Programming & Data Structures *Cornell University*
RECITATION INSTRUCTOR   *2017 - 2018*

Activities

Computer Science and Engineering Graduate student organization   *University of Michigan*
SOCIAL CHAIR   *2020 - 2022*
• Organize department socials, among other service to the department and graduate student body

Association of Computer Science Undergraduates   *Cornell University*
RESEARCH TEAM LEAD   *2017-2018*
• Led the Undergraduate Reading Group initiative, focusing on exposing underclassman to seminal research not taught in introductory classes
• Organized campus-wide events such as tech workshops and the semesterly student-faculty luncheon

Technical Reports

Whitepaper   Cassandra Enhancement Proposal. CEP-15: General Purpose Transactions,
                  Benedict Elliott Smith, **Tony Zhang**, *Blake Eggleston, Scott Andreas*
arXiv:2006.01885 On the Significance of Consecutive Ballots in Paxos,
                  Eli Goldweber, **Nuda Zhang**, *Manos Kapritsos*