Thanumalayan Sankaranarayana Pillai

madthanu@gmail.com   608 698 9678

Summary

I am currently a senior software engineer at Google focusing on high performing scalable databases for the cloud. I previously graduated with a PhD from the University of Wisconsin-Madison. I am interested and experienced in computer systems, particularly in cross-layer optimization and reliability. I focused my research in single-node storage systems in grad school, and have since had experience in operating system kernels, constructing a distributed database, measuring performance and durability in databases, and high availability in clusters.

Internships / Other Work Experience

Senior Software Engineer, Google Inc, Sunnyvale   (Sep 2019 - Current)
- Currently working on a high-performance distributed database.

Software Engineer, Google Inc, Sunnyvale   (Dec 2016 - Sep 2019)
- Worked in the Cloud SQL team. Focused on improving performance and durability, and lead high availability in database clusters and better reliability infrastructure.

Research Assistant, Computer Science Dept., UW-Madison   (Spring 2010 - Dec 2016)
- Worked on storage performance and reliability with Prof. Andrea C. Arpaci-Dusseau and Prof. Remzi H. Arpaci-Dusseau.

Software Engineering Intern, Google Inc, NYC   (Summer 2011)
- Worked with the team managing reliability infrastructure of global computing clusters.
- Constructed simple tools to collect and analyze statistical information from clusters.

Software Engineering Intern, Google Inc, Mountain View, CA   (Summer 2010)
- Worked on a mobile e-mail client prototype.

Lab Teaching Assistant, Computer Science Dept., UW-Madison   (Fall 2009)
- Monitored undergraduate students for a introductory java course.
- Worked with a team to create and handle programming assignments.

Education

University of Wisconsin-Madison   (Sep 2009 - Dec 2016)
Ph.D. in Computer Science, Dec 2016, Thesis: Application Crash Consistency.
M.S. in Computer Science, May 2011, GPA: 3.875/4.0
Advisors: Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau

College of Engineering, Guindy, Anna University, India   (May 2005 - May 2009)
B.E. in Computer Science and Engineering
CGPA: 9.1/10.0

Selected Publications

Thanumalayan Sankaranarayana Pillai, Ramnatthan Alagappan, Lanyue Lu, Vijay Chidambaram, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau, **"Application Crash Consistency and Performance with CCFS"**, FAST 2017 (Best paper award), TOS Sep 2017.

Lanyue Lu, Thanumalayan Sankaranarayana Pillai, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau, **"WiscKey: Separating Keys from Values in SSD-conscious Storage"**, FAST 2016, TOS March 2017.

Ramnatthan Alagappan, Aishwarya Ganesan, Yuvraj Patel, Thanumalayan Sankaranarayana Pillai, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau, **"Correlated Crash Vulnerabilities"**, OSDI 2016.

Thanumalayan Sankaranarayana Pillai, Vijay Chidambaram, Ramnatthan Alagappan, Samer Al-Kiswany, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau, **"Crash Consistency"**, CACM October 2015, ACM Queue July 2015.

Thanumalayan Sankaranarayana Pillai, Vijay Chidambaram, Ramnatthan Alagappan, Samer Al-Kiswany, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau , **"All File Systems Are Not Created Equal: On the Complexity of Crafting Crash-Consistent Applications"**, OSDI 2014.

Vijay Chidambaram, Thanumalayan Sankaranarayana Pillai, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau, **"Optimistic Crash Consistency"**, SOSP 2013.

Full list of publications on Google Scholar: https://scholar.google.com/citations?user=pUXUqXMAAAAJ