

Thanumalayan Sankaranarayana Pillai

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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>