

Thomas S. Repantis

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INTERESTS Highly-scalable, fault-tolerant, real-time, distributed systems.

PROFESSIONAL EXPERIENCE **Akamai Technologies**, Platform Engineering, Cambridge, MA, October 2008–Present
Engineering Manager, March 2018–Present

Leading the team that develops the alerting infrastructure responsible for monitoring Akamai's platform with operational efficiency.

Principal Lead Software Engineer, January 2015–February 2018

Led the Alert Management Systems team. Evolved a single database backend to geographically distributed, real-time replicas, and migrated a variety of direct database clients to REST APIs. Established modern development infrastructure and processes. Delivered on time projects spanning engineers across three time zones.

Principal Software Engineer, July 2013–December 2014

Carried out scalability projects in Query, a distributed, event-based system that continuously processes data from the entire Akamai platform. Mentored over half a dozen senior software and performance engineers.

Senior Software Engineer, February 2010–June 2013

Designed and implemented in C++ software for real-time publication, aggregation, delivery, and processing of data across Akamai's distributed platform. Developed C, C++, Java, Python, and Perl interfaces used by both internal and customer-facing applications for monitoring, alerting, and reporting.

Senior Performance Engineer, October 2008–January 2010

Used and developed tools to measure and analyze the performance, robustness, and scalability of large distributed systems. Took end-to-end responsibility of complex systems.

- ◇ **University of California, Riverside**, Distributed Real-Time Systems Laboratory
Designed, implemented in Java, and evaluated distributed protocols for sharing-aware component composition, load prediction and hot-spot alleviation, replica placement for high availability, and data dissemination in peer-to-peer systems. Led the development of the Synergy distributed stream processing middleware. Supervised student research projects.
- ◇ **IBM Research**, Watson Research Center, Hawthorne, NY, Summer 2007
Developed in Java a replication middleware for distributed, multi-tier, server architectures. Quantified performance using TPC-W. Patented a distributed, strong-consistency protocol.
- ◇ **Intel Research**, Corporate Technology Group, Pittsburgh, PA, Summer 2006
Built in C++ an event-driven, collaborative spam filter that employed a distributed protocol to defend against sybil attacks.
- ◇ **Hewlett-Packard**, Enterprise Storage & Servers, Colorado Springs, CO, Summer 2005
Developed in C++ and documented a logging mechanism used for asynchronous replication in a distributed disk array.
- ◇ **University of Patras, Greece**, High Performance Information Systems Laboratory
Implemented in C a protocol for dynamic memory page migration across the nodes of a Software Distributed Shared Memory System, to increase locality and adaptability.
- ◇ **FGAN e.V. (Fraunhofer FKIE)**, Bonn, Germany, Summer 2000
Analyzed the H.323 protocol family, used for multimedia applications in packet networks.

EDUCATION ◇ **Ph.D. in Computer Science**

University of California, Riverside, August 2008

Thesis: *Synergy: Quality of Service Support for Distributed Stream Processing Systems*

◇ **M.Sc. in Computer Science**

University of California, Riverside, August 2005

Thesis: *Adaptive Data Dissemination and Content-Driven Routing in Peer-to-Peer Systems*

◇ **Diploma in Electrical & Computer Engineering** (5-year program)

University of Patras, Greece, March 2003

Thesis: *Implementation of Page Forwarding on Clusters*