

# Thomas S. Repantis

<https://www.ninewhilenine.org>

thomas@ninewhilenine.org

INTERESTS      Engineering leadership for highly-scalable, fault-tolerant, real-time, distributed systems.

PROFESSIONAL    **Elastic**, Platform Engineering, Somerville, MA

EXPERIENCE      **Senior Manager of Engineering**, April 2021–Present

Leading the team that develops all distributed systems aspects of Elasticsearch, including cluster coordination and data replication. Doubled the team's size in one year; currently 11 engineers. Oversaw four promotions and four patent applications. The team delivered traffic compression by more than 50%, a resource-sensitive shard allocator, and scalability improvements reducing out-of-memory errors 12-fold. Updated the support escalation process across 10 Elasticsearch teams and more than 70 engineers, reducing median response time by 36%, time investment by 276%, and stress by 84%. Documented the responsibilities of Elasticsearch managers. Mentored close to half a dozen engineering managers.

◇ **Akamai Technologies**, Platform Engineering, Cambridge, MA, October 2008–April 2021  
**Engineering Manager**, March 2018–April 2021

Led the team that develops the alerting infrastructure responsible for monitoring Akamai's platform with operational efficiency. Managed up to 8 engineers, including matrix reporting. The team delivered alert correlation and notification services, and a web-based interface for viewing alerts. Owned backend services spanning 3 teams and approximately 20 engineers, automating the response to thousands of alerts per day.

**Principal Lead Software Engineer**, January 2015–February 2018

Managed the Alert Management Systems team, including roadmap planning, performance evaluations, and career progressions. Grew the team from 1 to 3 engineers. Led the team to evolve a single database backend to geographically distributed, real-time replicas while maintaining four 9s of availability, migrate a variety of database clients to REST APIs, and establish modern development infrastructure and processes. Delivered on schedule projects spanning engineers across three continents.

**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 engineers.

**Senior Software Engineer**, February 2010–June 2013

Designed and implemented 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 internal and customer-facing applications.

**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.

◇ **IBM Research**, Watson Research Center, Hawthorne, NY, Summer 2007

Patented a distributed, strong-consistency replication protocol for multi-tier architectures.

◇ **Intel Research**, Corporate Technology Group, Pittsburgh, PA, Summer 2006

Built an event-driven, distributed spam filter, robust against sybil attacks.

◇ **Hewlett-Packard**, Enterprise Storage & Servers, Colorado Springs, CO, Summer 2005

Developed a logging mechanism used for asynchronous replication in a distributed disk array.

◇ **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*