

J. Scott Miller
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Cloudflare, Inc, Austin, TX

Systems Engineer, February 2022 - August 2022

- Designed and implemented low-latency playback functionality on Cloudflare's edge video streaming service.
- Scaled playback by deploying a custom registration and routing service to track which server and datacenter received a particular stream, which is then queried on playback.
- Tools: Go, Typescript, Cloudflare Workers

miniboss.gg, Austin, TX

Owner, October 2012 - July 2022 (part- and full-time)

- Launched miniboss.gg (formally 1dash1.com), a game creation tool designed for new and novice programmers.
- Applied research and development background to create programming language, asset creation tools, and hosting platform for HTML5 games.
- Leveraged control of engine and language to ensure deterministic execution. This, layered with a lightweight input synchronization protocol and latency-based server selection allows for simple multiplayer game creation.
- Architected backend to span multiple regions, using latency-based DNS routing to minimize player ping.
- Experimented with an ad-supported business model by focusing on syndicated games. Attracted >10,000s players (>99% organic) while reducing bounce rate (35% to 5%) and increasing session duration.
- Presented at Indiecade East 2014 and maintained social media, blog, and other marketing channels.
- Rebooted project during COVID, reimagining user interface based on accumulated feedback.
- Tools: Typescript, Go, Python 3, React, Webpack, ZeroMQ, AWS (CDK, ECS, ELB, Athena), Redis, PostgreSQL

Indeed, Austin, TX

Engineering Manager, Staff Software Engineer, November 2016 - February 2018, September 2019 - June 2020

- Managed the engineering team building Indeed's applicant tracking system processing several million applications daily. Supported the engineering team and product owners by leading grooming, planning, and retrospectives, while coordinating technical direction with product and user experience stakeholders.
- Oversaw response to production incidents, performed impact analysis, and coordinated remediation.
- Managed engineering team that integrated a new design language into Indeed's frontend component library.
- Ran over-the-shoulder user studies with engineers outside my immediate team and used their feedback to identify and prioritize improvements to the frontend component library and related documentation.
- Recruited back to Indeed and became a staff software engineer on the job posting funnel, which drives the majority of job postings on Indeed.com.
- Drove migration of desktop-only features to mobile and outlined a development and testing process for responsive design within a non-responsive legacy system. Migration resulted in statistically significant improvements to many user metrics, including job posting quality and billing revenue.
- Tools: Typescript, React, Webpack, Java, Spring framework, Datadog

Bethesda Softworks, Austin, TX

Senior Software Developer, September 2018 - September 2019

- Migrated two high-traffic systems supporting 1,000s to 10,000s RPS to Redis Cluster from single master Redis.
- Designed and launched a NAT Traversal solution for peer-to-peer multiplayer games. Servers implementing the STUN and TURN protocols were deployed in multiple regions, using latency-based DNS to distribute traffic.
- Implemented large parts of the STUN/TURN protocols to simulate 10,000s of clients in a load test environment.
- Worked with a game studio to integrate WebRTC into their engine. Enabled end-to-end observability by capturing game client metrics, custom server-side metrics, service APM, and availability monitors.
- Became lead on matchmaking product and coordinated that product's release with the game studio, publisher QA, and product stakeholders. Matchmaking and NAT traversal both launched successfully in a large-scale multiplayer-focused game (Wolfenstein: Youngblood).
- Tools: Go, Python 2, AWS (ECS, ElastiCache, DynamoDB, CloudWatch), Redis, Splunk

Wikibuy, Austin, TX

Vice President of Engineering, December 2015 - July 2016

- Coordinated a major, live backend redesign. This included ensuring that both new and old services could coexist, defining new monitoring and alerting, and comparing user metrics across both systems.
- Created a feature roadmap and led an effort to release the shopping platform MVP in approximately 6 weeks.
- Improved dashboards used by the operations team and trained that team to own future improvements.
- Tools: Cassandra, Elasticsearch, Amazon Redshift, Datadog, Looker

Paxos, New York, NY

Lead Developer, Director of Engineering, September 2011 - September 2012, June 2013 – November 2014

- Hired new engineering staff and set standards for engineering and operations following a restructuring.
- Launched itBit virtual currency exchange and API, growing the exchange to several million dollars (US dollar equivalents) in daily volume.
- Led backend code development, designing trading layer and optimizing order matching performance.
- Designed general API to enable bespoke business integration by working directly with a third party partner.
- Developed secure, offline virtual currency deposit and withdrawal protocols with the operations team.
- Carried out regular requirements gathering, estimation, and sprint planning with the development team.
- Tools: Node.js (Express framework), Backbone, Redis, C#/.NET 4.0, SQL Server, AWS

ZS Associates, Evanston, IL

Lead Software Developer, July 2006 - January 2008, October 2009 - September 2011

- Released sales team optimization tool. Worked primarily on engine design and a framework for the scheduling optimization jobs on an internal high-performance computing cluster.
- Developed a plan for unifying two applications into a single product and led implementation across two teams.
- Enhanced ETL and data warehousing application by adding substantial monitoring capability, including crash-dump generation, application server analytics, and production transaction monitoring.
- Improved ETL and report generation performance by 50% using live and synthetic performance data.
- Released two internally-used tools for capturing and analyzing market research data.
- Tools: C#/.NET 4.0, SQL Server, ASP.NET, IIS, Splunk

Trading Technologies Inc, Chicago, IL

Engineering Intern, June 2005 – September 2005

- Developed tool to monitor throughput and latency of a proprietary transport protocol.
- Created content management system for aggregating automated testing results.
- Tools: C++, Python (Plone framework)

EDUCATION

Northwestern University, Evanston, IL

Bachelor of Science (June 2006), Master of Science (June 2009) Computer Science

Cumulative GPA: 3.89/4.0 (BS, Magna Cum Laude) 3.95/4.0 (MS)

Achievements: Dean's list 11/12 quarters, Best Computer Science Senior 2006, FARA research grant

PUBLICATIONS

J. S. Miller, A. Mondal, R. Potharaju, P. Dinda, A. Kuzmanovic, *Understanding End-user Perception of Network Problems*, Proceedings of the Workshop on Measurements Up the Stack (W-MUST 2011), August, 2011.

J. S. Miller, J. R. Lange, P. A. Dinda, *EmNet - Satisfying The Individual User Through Empathic Home Networks*, Proceedings of the 29th IEEE International Conference on Computer Communications (INFOCOM 2010), March, 2010.

J. S. Miller, P. A. Dinda, R. P. Dick, *Evaluating a BASIC Approach to Sensor Network Node Programming*, Proceedings of 7th ACM Conference on Embedded Networked Sensor Systems (SenSys 2009), November, 2009.

J. R. Lange, J. S. Miller, P. A. Dinda, *EmNet: Satisfying the Individual User Through Empathic Home Networks: Summary*, Proceedings of ACM SIGMETRICS 2009, June, 2009.

A. Shye, Y. Pan, B. Scholbrock, J. S. Miller, G. Memik, P. Dinda, R. Dick, *Power to the People: Leveraging Human Physiological Traits to Control Microprocessor Frequency*, Proceedings of the 41st Annual IEEE/ACM International Symposium on Microarchitecture (MICRO 2008), November, 2008.

PATENTS

System and method for leveraging human physiological traits to control microprocessor frequency
United States US8683242 B2

Egg cracking apparatus
United States US200602601