

Mathias Kools
Software Engineer

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Work Experience

ChaosSearch Inc (Boston, MA) *Software Engineer* from June 2022 – Present

Working as a “core” engineer on the backend of a distributed search and analytics database.

- Rectified customer errors in data ingest, search, and aggregation of tens of terabytes of data per day on hundreds of EC2 instances using pekko stream and S3 control structures.
- Turned around “windowed monitoring query” project to provide large compute savings and restore minute by minute alerting for indexing faults.
- Opened up OEM use cases by modernizing deployment and application REST APIs.
- Connected product to platforms like Databricks, Amazon EMR with new spark format to further improve company acquisition opportunities.

Smartleaf Inc (Boston, MA) *Software Co-Op* from July 2021 – December 2021

Worked as an intern on the rails app team for a financial portfolio rebalancing company.

- Automated bulk workloads for clients with 10s of billions of dollars in AUM.
- Implemented export to stock trading format for a large prospective banking client.

Liberty Mutual Solaria Labs (Boston, MA) *Software Co-Op* from July 2021 – December 2021

Worked as an intern on the “Dwellbeing” app which rewarded homeowners for reducing risk.

- Designed RBAC system to secure and enable insights on data on internal React sites.

CloudHealth Technologies (Boston, MA) *Dev-Ops Intern* in Summer of 2017 and 2018

Worked as a high school intern in dev-ops for a large, now-acquired, cloud savings company.

- Supported company-wide OS version upgrade to ruby chef cookbooks and systemd scripts.
- Led app-wide “Content-Security-Policy” effort to protect 3000+ customers from XSS attacks.

Education

Northeastern University (Boston, MA) *Undergraduate* from September 2018 to May 2022

- Earned a Bachelors of Science in Computer Science and Mathematics.
- Courses: Combinatorics, Dynamic Models, Stochastic Processes, Computer Systems & AI.

Awards and Accomplishments

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- Graduated Valedictorian of Reading Memorial HS and Summa Cum Laude at Northeastern.
 - Open Source Contributor to Scala.
 - Former Co-President of Robotics FRC Team # 4761.
 - Ran 2 marathons (4:15) and all 113 miles of Brookline, MA (citystrides).

Skills and Tools

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- Experienced with JVM: Scala, Java, JFRs, Heap Dumps, Class Decompilation, Java Agents.
 - Professional Experience in Libraries: Pekko Streams & Actors, Spark, Terraform, Ruby on Rails, Chef, React, Express, Node, Flutter, Parboiled2 (Parser Generator).
 - Experiences in Excel, Python, PHP, C, TypeScript, JavaScript, R, Lua.