M. Cooper Healy

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Work Experience

— Nov 2023	**Software Engineer** *Arbol Inc*, New York, NY ○ Stood up new microservices to automate contract confirmation process for legal team ○ Worked directly with stakeholders to adapt to changing usage requirements ○ Led project for platform tooling, organizing work to be done and customer feedback ○ Led several deep refactors to improve performance and maintainability in multiple codebases ○ Became domain expert in tooling used for all document generation and management in services
Tech	*TypeScript, AWS, Hasura, Docker, PostgreSQL*

Nov 2023 Feb 2023	**Senior Software Engineer (Labs Team)** *Copper CRM*, San Fransisco CA ○ Designed and implemented distributed job system to parallelize computation ○ Restructured microservices in a serverless pattern, greatly reducing runtime cost ○ Worked directly with product manager to adapt to changing requirements based on user feedback ○ Brought brand-new product to public launch seamlessly ○ Worked with Designers and front-end engineers to adapt to changing usage requirements ○ Performed time-series data analysis to determine meaningful parameters for user's relationships ○ Developed comprehensive analysis tool for client relationship insights ○ Integrated new analysis tool with existing infrastructure to increase application's ability to respond to user needs ○ Developed internal tools to prevent common issues in development and deployment of distributed system
Tech	*Go, Julia, gRPC, Docker, Kubernetes, Kafka, DynamoDB*

Nov 2023 Oct 2021	**Software Engineer** *C2FO*, Leawood KS ○ Developed AWS Lambda functions in Python as part of a completely event-driven architecture ○ Developed core NestJS-based design for microservices to follow ○ Migrated backend from event-driven architecture to distributed microservices ○ Created testing suite for entire suite of microservices, reducing service fragility and downtime ○ Created team standards for code quality and test coverage, enforcing them with GitHub Actions ○ Created injectable, distributed authentication system for both internal and external users ○ Architected and owned use of Multi-Factor Authentication site-wide ○ Owned and standardized design and use of data access layer across microservices with Prisma ○ Designed and implemented cardholder signup workflow and dataflow ○ Automated process to search all customers and extend line-of-credit offers with Python ○ Coordinated with Data Engineers to ensure that queries were performant and concise ○ Created API allowing tool for generating line-of-credit offers to be triggered by internal tool ○ Created cardholder onboarding page in react, working with design team and ops team to ensure a pleasant customer experience ○ Led other junior engineers in planning and executing work ○ Brought CashFlow+ Card from ideation to production in 9 months ○ Worked closely with product teams to shape and prioritize work ○ Created and maintained connective APIs with third party vendors, ensuring stability of service
Tech	*TypeScript, React, Python, PostgreSQL, AWS Lambda, Docker, Kubernetes, NestJS, Kafka, RabbitMQ*

OCT 2021 JAN 2021	**Software Engineer II** *Garmin International*, Olathe KS ∘ Added authentication for integration tests, removing the need to store credentials ∘ Wrote new layer to allow use of SSL in customer-device authentication ∘ Secured internal endpoints on production services by adding secured connective layer ∘ Wrote custom application-layer API handling in C++ to allow for more complex internal API usage ∘ Updated server to handle requests for map data by customer navigation devices in C++ ∘ Owned and maintained authentication system for all incoming traffic from customer navigation devices ∘ Diagnosed issues with route-planning AI by dissecting graph datastructure to find integrity issues
Tech	*C++, Boost, PostgreSQL, Docker, QEMU*

JAN 2021 FEB 2020	**Software Engineer / DevOps Liason** *Service Management Group*, Kansas City MO ∘ Developed tools to monitor and diagnose data quality issues on a large scale ∘ Mitigated client-impacting issues with data quality in a timely and permanent manner ∘ Redesigned messaging architecture for critical and high load infrastructure applications ∘ Owned and maintained orphaned projects and updated and upgraded them to fit new standards ∘ Wrote Python tool to analyze millions of records of data to determine source of data issues ∘ Created infrastructure to automate future data-integrity analysis, severely reducing workload ∘ Updated all data-accessing code to be parallelized and performant ∘ Added tests to all legacy code to allow for more stable iteration and improvement
Tech	*C#, PostgreSQL, Kafka, RabbitMQ, elasticsearch, TypeScript, AngularJS*

FEB 2020 JUN 2019	**Software Engineer** *Cboe Global Markets*, Lenexa KS ∘ Designed scalable software to automate analysis of market data ∘ Prioritized business logic by representing consumers of analysis in design discussions ∘ Managed the migration of hundreds of scripts to improved analysis framework ∘ Promoted TDD for all new software through development of new test suite ∘ Designed overarching structure for new data engineering workflows with Hadoop and Spark ∘ Created Python microservices to analyze market data to create trend reports ∘ Wrote performant PostgreSQL queries to perform statistical analysis of market data nightly ∘ Worked in on-call cycle to mitigate company-wide data quality concerns at all hours ∘ Coordinated with NYSE and Nasdaq to create common format for new SEC compliance report ∘ Collaborated with platform team to create new framework for large-scale market analysis
Tech	*Python, PostgreSQL, Hadoop, Spark*

JUN 2019 MAY 2018	**Software Engineering Intern** *Garmin International*, Olathe KS ∘ Owned and maintained .NET tool for configuration of airframes ∘ Designed testing framework to ensure integrity of new airframe configurations ∘ Guided two other interns in updating and maintaining said testing framework ∘ Collaborated directly with users to design new features based on need ∘ Created comprehensive tests for all existing code within .NET codebase ∘ Refactored process-scheduling functionality within embedded GIA64 Operating System
Tech	*C#, Python, Embedded C*

EDUCATION

2019	**Bachelor of Science, Computer Science** Missouri University of Science and Technology, Rolla MO GPA: 3.5/4.0, Major GPA: **3.9/4.0** **Cum Laude**
2029	**Master of Science, Computer Science (Robotics and High-Performance Computing)** Georgia Institute of Technology, Atlanta GA

Research Experience

2018 2017	**Research Assistant — Data Science** *Dr. Gayla Olbricht*, Missouri University of Science and Technology ◦ Looked for statistical connection between certain alleles and presence of alzheimer's disease ◦ Analyzed neuroimaging datasets to look for relationship between age and SOD2 allele ◦ Tested for differences in structures and SOD2 status using multivariate analysis of covariance ◦ Measured five different aspects of white matter structural integrity by analyzing DTI data ◦ Co-authored a paper describing the project and presented research to a board of peers ◦ Collaborated with other scientists to ensure research aligned with existing work ◦ Performed statistical analysis over several gigabyte dataset using Numpy, Pandas, and R

Associations

2016-2019	**Missouri University of Science and Technology Underwater Robotics Team**
2017-2018	**Missouri University of Science and Technology Sig-Game**
2015-2016	**American Nuclear Society**