

Nathan McCrina

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✉ nathan.mccrina@outlook.com

mccrina.site (personal website)

github.com (various personal projects)

Skills

Languages

- C#, JavaScript, C, C++, Python, Swift, Rust

Frameworks

- Asp.Net Core, Entity Framework Core, Nest.js, Angular, React, Apollo GraphQL

Other Technology

- SQL Server, SQLite, Redis, Docker, Kubernetes, Git, Azure Service Bus, Azure Event Grid, Apache Kafka

Experience

Professional

2019–Present **Senior Software Engineer**, *Amedisys, Inc*, Nashville, TN

Developed an in-house web application for a home health company

- Designed and led implementation of a cloud-hosted distributed solution for ingesting HL7 data from hospital systems over TCP (100,000+ messages per day)
 - Used C# Azure Functions to implement a pipeline for processing the received TCP messages and sending appropriate updates to our application
 - Project increased patient intake for Amedisys by a factor of 2-3 at partner hospitals by reducing reliance on manually monitoring hospital EMR for potential clients.
- Maintained cloud infrastructure (Azure Kubernetes Service, Azure Cache for Redis, Azure SQL databases and more) required by our applications using Pulumi infrastructure-as-code framework
- Led implementation of OAuth 2.0 authentication in our application; later integrated Amedisys corporate accounts into our authentication scheme which enabled Single Sign-On for our internal users and significantly improved their experience with the app.

2019–2019 **Software Engineer**, *Independent Contractor*, Franklin, TN

Remote contractor with Across Healthcare in Carrollton, GA

- Developed proof of concept/initial version of a web app for tracking medical provider billing data (<https://www.mdcomp.net>)
- Angular/Asp.Net Core/Sql Server stack

2017–2019 **Software Engineer**, *Evicore Healthcare*, Franklin, TN

Member of development team for health care IT company providing an insurance pre-authorization solution

- Responsible for creating and maintaining microservices during company's transition to an event-driven architecture based on Apache Kafka
 - Implemented services in C# using CQRS-style design principles
 - Helped maintain Azure-based CI/CD pipeline

2014–2017 **Software Engineer**, *Greenway Health*, Carrollton, GA

Full-stack developer at EMR vendor

- Maintained legacy application written in a mix of Visual Basic, VB.Net, C# and frankly an embarrassing amount of Sql Server stored procedures

Personal

Languid

Program that captures an audio stream from a microphone and uses cloud-hosted AI tools to translate it and send translated text or audio to clients in real time

- Audio capture and translation routine written in C++
 - Required combining discrete sections of PCM data received from the cloud service into a single continuous audio stream
- User interface implemented as a client-server model using HTTP web sockets to push newly translated text without user interaction
 - Mobile-friendly
- Code:
 - <https://github.com/nfmccrina/languid>
 - <https://github.com/nfmccrina/languid-server>
 - <https://github.com/nfmccrina/languid-ui>

TuxedoCat

Chess engine written in C++

- Explored some basic concepts in artificial intelligence/game theory such as the Minimax algorithm and alpha-beta pruning
- Code: <https://github.com/nfmccrina/tuxedocat>

Education

2012-2014 **B.S. Mathematics**, *Gordon State College*, Barnesville, GA