Dan **Miller**

SOFTWARE ENGINEER · LIFELONG LEARNER · GAME DEVELOPER

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"Be the change that you want to see in the world."

Summary

Most recently a lead software engineer at financial startup Dispute.com and founder of Fraculation LLC. I have 9 years of professional experience and have been writing code since 2010. My experience is varied, starting with full stack development in C# and Angular across both AWS and Azure, then learning real-time application development in C# and Rust, and most recently leading the development of a real-time financial dispute resolution platform built with C# and dotnet core.

Expert in C#, Terraform, Dotnet Core, Typescript, and Unity. Currently learning Neovim and Rust. Looking to solve complex and meaningful problems with a team that values autonomy and creativity. Ideally working in performance-critical and/or high scale contexts on the Individual Contributor track.

Skills

Backend	Frontend	DevOps CI/CD
• C#, dotnet core	• Angular, React	• Github Actions
• SQL, Entity Framework	• Typescript	• Terraform, Docker
• Rust, Axum, HTMX	• Jasmine, Jest, Karma	• AWS SDK
• Test Driven Development	• Cypress	• Jenkins
• Python, NodeJs	• RxJS, NgRX	• Azure Devops

Work Experience

Dispute.com
Milwaukee, Wisconsin (Remote)

LEAD SOFTWARE ENGINEER
Feb. 2023 - Sept. 2024

- Architected and developed secure, scalable systems resulting in 90% reduction in time spent on manual intervention in the core data pipeline.
- Onboarded and led a team of 3 developers towards a culture of communication and excellence.
- Introduced Auth0 for client authentication and authorization, automated management via Terraform.
- Created extensible system to manage integrations with CRMs and Chargeback Protection platforms (Konnektive, Sticky, Ethoca, Verifi)
- Developed ingestion pipelines for unreliable data providers, decreasing the need for manual intervention by 80%.
- Created CI/CD pipelines in GitHub Actions which deployed applications via Terraform and released internal shared Nuget and NPM packages.
- Skills: C# • Github Actions • Rust • App Service • SQL Server • Durable Functions • Application Insights • Entra Id/AAD

Fraculation LLC
Milwaukee, Wisconsin

GAME DEVELOPER, OWNER
Sep. 2021 - Present

- Implemented a true-to-life Mendelian genetics system which faithfully recreates Punnet Square outcomes using C#.
- Built an ECS system to simulate over 10,000 3D enemies and projectiles in real time at >60FPS as part of a tower defense game.
- Created open-source libraries leading to a 60% reduction in code duplication across game jams. Addressing common needs such as Math, Save system, Logging, Scriptable variables, Leaderboards, and Unit Testing
- Used Async/Await to manage game and UI logic with a Task-based asynchronous pattern (TAP) in Unity.
- Built leaderboard API in Rust using Axum, Serde, HTMX, Sqlx, and Tokio.
- Autogenerated C# API from an OpenAPI specification with openapitools for use in Unity.
- Skills: Unity • C# • Rust • Real-time parallel algorithms • Data-oriented Design • ECS • DOTS • Jobs • Burst Compiler

Flite Golf & Entertainment
Milwaukee, Wisconsin (Remote)

UNITY IMPLEMENTATION SPECIALIST
Sep. 2022 - Feb. 2023

- Provided company-wide guidance on C# and Unity best practices as the resident Unity expert.
- Introduced unit tests to an untested codebase.
- Introduced Azure Application Insights to capture logs across all facilities and deployments, decreasing time collecting logs in the field by 73%.
- Managed client relationships with the owner and employees of Luxe Golf, which hosted our applications.
- Led towards a culture of documentation by creating standardized test cases, a knowledge base, and an onboarding guide.
- Skills: Unity • C# • QA Process Improvement • Azure App Insights

Centare (Milwaukee Tool, One Key)
Milwaukee, Wisconsin

AWS CLOUD ENGINEER
Jan. 2021 - Jun. 2021

- Used CQRS and Event Sourcing to build an ETL pipeline from SQL Server into Elasticsearch, ingesting millions of positional data points per day
- Learned AWS Lambda and the Kinesis Consumer Library in Python to build a serverless data pipeline
- Skills: Python • Terraform • Docker • C# • AWS Lambda • Dynamodb • Kinesis

Centare (Symplr Cactus)
FULL STACK ANGULAR DEVELOPER

Milwaukee, Wisconsin
Sep. 2019 - Dec. 2020

- Modernized existing web applications into Angular Single Page Applications.
- Onboarded two offshore teams to work inside the new project ecosystem.
- Mentored junior team members through pair programming and code reviews.
- Skills: Angular • Typescript • RxJS • Cypress • C# Web API • Agile

Centare (API Healthcare)
CLOUD ENGINEER, ANGULAR APPLICATION DEVELOPER

Milwaukee, Wisconsin
Aug. 2017 - Sep. 2019

- Converted legacy C# on-premise modules to run on the Azure cloud.
- Managed automated build and deployment in Jenkins.
- Documented and led design decisions for Angular applications.
- Onboarded new team members to support Angular applications by creating a knowledge base and one-on-one mentoring

Brady Corporation
IT DEVELOPMENT INTERN

Milwaukee, Wisconsin
Jun. 2015 - Dec. 2016

- Created bespoke implementation of the Observer pattern for use in an AngularJS application.

MSOE
B.S. IN SOFTWARE ENGINEERING

Milwaukee, Wi
Sept. 2012 - May 2017

Projects _____

The Last Storm Crystal
HTTPS://LIMEBLOSSOMJAMS.ITCH.IO/THE-LAST-STORM-CRYSTAL

Brackeys Jam 2024.2
Sept. 2024, 7 days

- Leveraged and modified existing code to efficiently meet our needs without rewriting.
- Ensure the game and AI behaved correctly as large changes to the codebase were made through test-driven development.
- Skills: C# • Test driven development • AI • Library development

The Essence of Tactics
HTTPS://LIMEBLOSSOMJAMS.ITCH.IO/THE-ESSENCE-OF-TACTICS

Pirate Software Jam 15
Jul. 2024, 14 days

- Built a Tile-Tactics game with a game designer and artist, building on shared code from a previous jam.
- Created pathfinding and optimizing AI based on a custom fitness function.
- Skills: C# • Data-driven design • Test driven development • AI • Library development

Leaderboard web app
HTTPS://GITHUB.COM/DSMILLER95/FRACULATION-LEADERBOARD

Hobby
Apr. 2024

- Created a web app with Rust and HTMX to store leaderboards of games I created.
- Allowed equivalent display of data between HTML and JSON MIME types without code or endpoint repetition.
- Skills: Rust • Axum • HTMX • Api development • SQL, SQLx

Splendor Simulator
HTTPS://GITHUB.COM/DSMILLER95/SPLENDORSIMULATOR

Hobby
Dec. 2022

- Designed a Python application to train an AI to play the board game Splendor.
- Allowed display of game states during training with a Flask API and a React frontend.
- Partially completed migration of game logic to Rust to increase performance, binding to Python with pyo3/Maturin.
- Skills: Python • Pytorch • Flask • React • Rust • Pyo3 • React • Api development

Disconnect
HTTPS://SPIKEDEVELOPS.ITCH.IO/DISCONNECT

Top 3%, GMTK Jam 2023
Jun. 2023, 48 hours

- Coordinated team of 3 software developers to rapidly collaborate without conflicts on a 48-hour timeline.
- Created a game with 0 logic bugs at launch through Test-Driven development when creating both game logic and AI.
- Skills: Leadership • Test driven development • C#

L-System Language Execution Engine
HTTPS://WWW.FRACULATION.COM/BLOG/LINDENMAYER-IMPLEMENTATION

Fraculation LLC
Dec. 2020 - Jun. 2023

- A custom implementation of L-Systems including a tokenizer and a multithreaded interpreter.
- Built with Unity's Jobs system to enable multithreading, and rendered in Unity as Meshs.
- Presented at M+Dev in 2022.
- Experimented with Rust interoperability in Unity to improve performance.
- Skills: Unity • C# • Rust • Developer Tooling • Library development • Jobs • Burst Compiler • Multithreading • Performance Optimization