Aidan Fahey

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EXPERIENCE

Software Engineer   Dec 2025 - Present
The Kenerson Group   *Athol, MA*

- Engineered **TreeWorks**, a custom ArcGIS Pro module, using the ArcGIS Pro SDK in C# / .NET that enabled arborists and foresters to map and manage tree assets, **reducing manual data entry time by 40%.**
- Developed **Cimplar**, Bay State Forestry's client property plotting and reporting tool, in C# / .NET, SQL Server, and React, complying with government regulations and **improving report generation and property plotting by 80%.**
- Designed and implemented a scalable data model for tracking tree condition, status changes, valuation metrics, and risk factors, **increasing dataset integrity and validation accuracy by 30%.**
- Built geoprocessing tools that automated proximity analysis to structures, utilities, and powerlines, **cutting risk-assessment workflow time from hours to under 5 minutes.**
- Implemented a risk-to-target calculation engine incorporating ISA/TRAQ methodology, **enabling users to generate standardized risk reports 3× faster.**
- Developed a valuation algorithm that automatically calculates tree economic value based on species, health, and site factors, **improving appraisal consistency by 60%.**
- Optimized spatial SQL queries and feature-layer indexing for **large municipal tree inventories (200k+ features), improving application responsiveness by 45%.**
- Integrated offline GPS and mobile data-collection compatibility, **reducing field-to-office data sync errors by 70%.**
- Implemented robust error-handling, logging, and telemetry to support long-running geoprocessing tasks, **decreasing user-reported crashes and failures by 50%.**

Volunteer Software Engineer & Onboarding Lead   May 2025 - Present
Web Surfing Studios   *Remote*

- Led end to end development of Web Surfing Studios' email infrastructure, **including 3 microservices.**
- Rewrote and modernized internal candidate portal by migrating legacy ASP.NET MVC code to ASP.NET Core Web API and React, **improving candidate review, rejection, and approval time by 40%.**
- Managed a team of 12 Junior Software Engineers, **resulting in 50% faster feature completion.**
- Built REST APIs using C# / .NET Core with Entity Framework and MySQL to **consolidate email operations, improving security around AWS keys and eliminating 1,600+ lines of redundant code.**
- Implemented **AWS infrastructure** including Lambda (serverless), SQS, RDS, SES, and Elastic Beanstalk to **support horizontally scalable processing and reliable message delivery.**
- Designed a responsive React + Redux interface enabling admins to search, review, and delete emails without raw SQL queries, **accelerating email tracking by 500%.**
- Added global exception handling, partial batch responses, and queue-based retention for failed messages, **boosting tracking efficiency by 150%.**
- Created CI/CD pipelines in Azure DevOps integrating Git with multi-stage AWS deployments (Dev/Stage/Prod), **reducing deployment time by 90%.**
- Developed automated testing using NUnit and Moq to ensure system reliability and test dependency injection scenarios.

SKILLS

Languages: C# / .NET, TypeScript, JavaScript, HTML/CSS, Python, C/C++, Java, Swift, PowerShell, YAML, SQL

Frameworks: ASP.NET Core, ASP.NET MVC, Vue.js, Tailwind CSS, Express.js, React Native, Expo, Bootstrap

Libraries: React, Redux, Axios, jQuery, Pinia, Socket.IO, PyTorch, NumPy, Pandas, Scikit-learn, Matplotlib

Databases: Microsoft SQL Server, PostgreSQL, MySQL, SQLite

DevOps: CI/CD Pipelines, GitHub Actions, Azure DevOps, Docker, Windows Server & IIS

Misc: Node.js, Entity Framework, Prisma, Windows Installers, Git (GitHub, GitLab, Gitea)

AWS: Elastic Beanstalk, Lightsail, AppConfig, Secrets Manager, SQS, SES, RDS, Lambda, S3, CloudWatch, IAM

EDUCATION

College of the Holy Cross   Worcester, MA
Bachelor of Arts - BA, Computer Science & Religious Studies   *May 2025*