

Brady McAtee

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EDUCATION

Portland State University

Expected March 2026

BS in Computer Science, Minor in Physics (GPA: 3.9/4.0)

EXPERIENCE

Software Engineer Intern

June 2025 – Present

MSEI Biotronik

Lake Oswego, OR

- Built C#/.NET simulation tools used across R&D teams to accelerate pacemaker design validation and reduce reliance on hardware prototypes for 5+ concurrent projects
- Modernized .NET Framework 4.8 library to dual-target .NET 8 / Framework 4.8, separating UI from core logic via DI, factories, and extension methods while maintaining zero breaking changes across 8+ production applications
- Implemented DMA simulation model with nanosecond-level clock-cycle accuracy, async/await concurrency, and message-passing architecture to enable early firmware verification without hardware
- Automated XML-to-Markdown report generation integrated into Git workflows, eliminating manual documentation and saving hours per release cycle across 3+ R&D teams
- Designed reusable NUnit test harness adopted by 12+ engineers, reducing simulation model test setup time from 2 hours to 45 minutes

PROJECTS

recipeBox - Full-Stack Recipe Management System | *Node.js, React, PostgreSQL, REST API, AWS*

- Deployed production recipe management platform on AWS EC2 supporting 15+ restaurant staff with zero downtime, providing full CRUD workflows for recipes and ingredients
- Designed normalized PostgreSQL schema and RESTful API architecture ensuring data consistency across complex recipe-ingredient relationships
- Built responsive React interface with search, filtering, and intuitive forms enabling non-technical staff to onboard with no training

CRN Smart Locker Mobile App - Senior Capstone Project | *C#, .NET MAUI, REST API, NUnit*

- Built cross-platform .NET MAUI mobile app for a nonprofit, enabling community members to request and retrieve items through smart-locker integration
- Developed service layer connecting MAUI frontend to legacy REST API, implementing request/response mapping, JSON deserialization, and strongly typed MVVM bindings for 8+ item-request workflows
- Led technical architecture for a 6-person Agile team, defining API contracts, establishing MAUI best practices, and delivering a production-ready MVP within an 18-week timeline

C++ Ray Tracer - Physically-Based Rendering Engine | *C++, OpenMP, Parallel Programming*

- Built CPU ray tracer with physically-based materials (Lambertian, metal, dielectric), reflections, refractions, anti-aliasing, and depth of field effects
- Optimized rendering pipeline with OpenMP parallelization and thread-safe RNG, achieving 3× speedup on an 8-core CPU and reducing render times from 45 minutes to 15 minutes
- Structured engine using OOP principles and exposed CLI controls for quality/performance tuning

SKILLS

Languages: C#, C++, Python, JavaScript, SQL, C, Java

Concepts & Practices: Object-Oriented Design, Test-Driven Development, CI/CD, Agile, Parallel Programming, MVVM, Dependency Injection, REST API Design, Responsive Web Design

Frameworks & Platforms: .NET, .NET Framework, .NET Standard, .NET MAUI, React, Node.js, WPF

Tools & Infrastructure: Git, Azure DevOps, Docker, AWS EC2, PostgreSQL, NUnit