

# Alan Grissette

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## Education

Bachelor of Arts in Computer Science

Boston University | Graduation Year: 2024

## Skills

Proficient: Python | Java | C# | GoLang | HTML | CSS | Bootstrap | XML | SQL | Adobe XD | JavaScript | React

Familiar: Ocaml | C | MATLAB | MongoDB | Assembly | Figma | Tailwind | AWS

## Work Experience

### BlackRocket Productions

May 2023 - January 2024

Video Game Development Instructor and Programmer

- **Instruction:** Led 50+ students in mastering Unity programming, covering 10+ essential topics such as **scripting, animation, and C#** through structured lessons, presentations, and self-created tutorials.
- **Debugging:** **Resolved 100+ coding errors** using C#, ensuring seamless project development and a **95%+ project completion rate** among students.
- **Project Guidance:** Provided 100+ hours of personalized feedback, guiding students to develop unique video game projects featuring **projectiles, platforming mechanics, music, sound effects, and intricate storytelling.**

## Projects

### MERN (MongoDB, Express, React, Nodejs) Blog Site

January 2025

- Developed a **dynamic, scalable blog platform**, architecting **front-end and back-end** systems with a modular, component-based architecture.
- Engineered real-time user interaction, implementing **OAuth 2.0 authentication** via Google, **profile customization**, and an **intuitive dashboard with CRUD operations**, enabling users to manage 100+ blogs per accounts.
- Built an **event-driven notification system** processing 1,000 interactions daily, leveraging **asynchronous processing and WebSockets** to deliver low-latency.
- Designed a **mobile-first**, visually immersive UI using responsive design principles and adaptive rendering, integrating **dynamic animations** for an optimized, **cross-platform** user experience.

### PetMate: Pet Rental Application

January 2024

- Led the development of a pet rental web application, overseeing both **front-end and back-end development** while facilitating Agile processes to ensure timely delivery of features as **scrum master**.
- Managed **10+ Agile sprints**, overseeing development and integration of key features, allowing 100+ users to list, rent pets, and communicate using **C#, Blazor, and ASP.NET**
- Integrated AWS cloud support with MongoDB for **data management**, optimizing **scalability** and performance of the application infrastructure.
- Developed 5+ critical features, including **secure payment processing** and **geolocation functionality**, by leveraging **APIs, NuGet packages, and CSS/Bootstrap** for enhanced user interfaces.

### Algebraic Equation Stack Interpreter

June 2024

- Developed an OCaml-based algebraic expression parser that efficiently evaluates expressions with up to **10 operators and 5 variable types**, processing up to **100 expressions per second**.
- Implemented a highly flexible scope management system, enabling variable bindings and function definitions for over 50 unique expressions with **automatic error handling for unbound variables**.
- Optimized expression evaluation performance by reducing computational complexity by 30%, **handling recursive and nested functions with up to 10 levels of depth**.
- Designed and integrated a robust error-handling system, **reducing user-reported bugs by 25%** by catching syntax errors and providing meaningful feedback for invalid expressions.

## Achievements

**Boston University 2024 Hackathon Runner-up :** Developed an AI model using MediaPipe to recognize hand gestures for a virtual chalkboard