Jacob Miller

Albany, NY – (518)-728-3265 – JacobMiller2107902@gmail.com – Portfolio – Github – Itchio - Handshake

Computer Science undergraduate with experience in software, web & game development. Proficient in multiple languages & frameworks, with hands-on projects in computer vision, full-stack development, databases, language design & operating systems. Strong problem-solving skills, adaptability & ability to learn new technology.

Education

University At Albany – *B.S in Computer Science (3.7 Departmental)*   *Expected in: 05/2027*
  -*Deans List (Fall 2025)*

Relevant Coursework

Object Oriented Programming, Data Structures & Algorithms, Discrete Structures, Language Design, System Fundamentals, Algorithm Design & Analysis, Database Systems, Linear Algebra, Operating Systems, Discrete Probability

Skills

Programming & Development: Java, C, C# (Unity), Git, Python, JS (React, Three, Node), OpenCV, HTML/CSS
Other Skills: Problem Solving, Time Management, Customer Support, Adaptability, Team Collaboration

Projects (More available on portfolio website)

JavaDatabaseEngine (JDBE) – *Java, Swing, Gradle*
12/2025-01/2026
  -Built a relational database engine from scratch in Java, includes a custom query language, rule-based optimizer, execution engine, page-based storage, and crash recovery.
  -Benchmarked with 1k → 35k → 350k → 1.3m → 5m records which demonstrate linear $O(n)$ scan scaling
  -Developed a Swing-based GUI for interactive querying and execution plan visualization.

Operating System Demo *(ICSI412) – Java*
08/2025-12/2025
  -Implemented a comprehensive operating system simulation in pure Java
  -Developed process handling, priority scheduling, devices, message passing, paging & memory management
  -Demonstrates a deep understanding of low-level systems architecture, fundamentals & memory management.

Custom Programming Language *(ICSI311) – Java*   *08/2024 - 12/2024*
  -Designed and implemented a custom object-oriented interpreted language with Python-like syntax.
  -Built a complete Lexer, Parser & Interpreter as a part of (ICSI311).
  -Includes comprehensive JUnit tests for token validation/parsing, AST structure & interpreter outputs.

Work Experience

Product Flow Specialist – *Best Buy, Albany, NY*   *08/2025 - present*
  -Assist customers with technological needs while staying up to date on new hardware
  -Break down incoming trucks & stock goods throughout the store

General Services – *Lark Hall Productions, Albany, NY*   *01/2021 - 08/2025*
  -Assisted in the construction throughout the opening period of Lark Hall & The Eleven
  -Set up a security system throughout the building, along with helping with the installation of stage lights
  -Other duties include loading & unloading bands, as well as venue set-up.

Store Associate – *Whole Foods Market, Albany, NY*   *08/2024 - 12/2024*
  -Common tasks include restocking, cleaning & helping customers
  -Performed daily closing procedures for store operations