

# ANDREW DESCHENEUX

## CONTACT

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## PROGRAMMING LANGUAGES

- C/C++
- C#
- Python
- Javascript
- HTML
- SQL
- Java
- x86 Assembly
- MIPS Assembly
- MIC-1

## DEVELOPER TOOLS

- Microsoft Visual Studio
- Visual Studio Code
- Eclipse
- vi
- gdb
- CMake
- JIRA
- Jenkins

## OPERATING SYSTEMS

- Linux
- Windows

## COURSEWORK

- Machine Learning
- Compiler Construction
- Databases
- Computer Architecture

## EDUCATION

University of Massachusetts Lowell  
Bachelor's Degree, Computer Science

May 2022  
3.27/4.0 GPA

## EXPERIENCE

**Software Engineer (AMD), Radeon Technology Group, Boxborough, MA** Jun 2022 – Dec 2023

- Worked on graphics driver maintenance using C++.
- Converted Microsoft DirectX tests to work in a local testing environment.
- Debugged external app issues, including driver/shader bugs and crashes, using WinDbg.

**Intern (AMD), Radeon Technology Group, Boxborough, MA** Jun 2021 – Aug 2021

- Generated single frame captures from AAA Games for use in validation.
- Debugged issues in game frames using gdb and winDbg to isolate specific bugs and determine their causes.
- Modified applets for use in pre-silicon environments.

## PROJECTS

**J4 Language Implementation, University of Massachusetts Lowell, Lowell, MA**  
January 2021

- Created an interpreter which implemented a high level language called J4 and allowed it to run certain instructions and processes. The main body of the content was done in Java, and stored on GitHub. This was primarily accomplished using the Eclipse IDE.

**Nanopass Compiler, University of Massachusetts Lowell, Lowell, MA**  
September 2021

- Created a nanopass compiler that converts a higher-level abstract language through multiple layers, finally rendering it into x86 Assembly instructions and running said instructions. The main body of the content was done in C and C++, with some direct usage of x86 assembly outside of the compilation process. The project is stored on GitHub. This was primarily accomplished using Microsoft Visual Studio and MASM.

**Linear Feedback Shift Register and Image Encoding, University of Massachusetts Lowell, Lowell, MA**  
March 2021

- Used a linear feedback shift register to scramble the pixel values of a given image such that it couldn't be recognized properly when viewed. The key was then saved and could be applied to the image to unscramble the pixel values to restore the image's original appearance.

**N-Body Simulation, University of Massachusetts Lowell, Lowell, MA**  
December 2021

- A simulated depiction of the solar system using N-bodies, in which different planets all "rotate" around the sun at a given rate. The rotation speed was based on given mass and distance values and the effect of gravity from each body on each other was also taken into account. (Note: a result of this was that the "sun" also technically moved, albeit minutely)

**Acoustic Simulation of a Plucked String, University of Massachusetts Lowell, Lowell, MA**  
May 2021

- Simulated the acoustic output of a plucked guitar string, playing different sounds corresponding to various musical notes depending on a given key press. It was primarily based in the C Major scale, with sharps and flats included depending on a corresponding key press (shift for sharps, ctrl for flats).