Max Heitzman

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Aspiring AI-focused graduate student with a background in systems programming, algorithms, and applied computing.

Education

- **Texas Tech University** — Expected: Dec 2025
  B.S. Computer Science, Minor in Mathematics — *Lubbock, TX*
  - GPA (Last 60 hrs): ∼3.4
  - Relevant Coursework: Data Structures, Algorithms, OOP, Programming Languages, ISA, Math Statistics

Projects

- **Multiprocessor Cellular Automaton Simulator** — Apr 2025
  Python — Parallel Programming — *GitHub*
  - Two-phase simulator evolves matrix state via symbolic rules.
  - Implemented multiprocessing for 40% runtime gain over serial.
- **Syntax Parser** — Mar 2025
  C — Compiler Design — *GitHub*
  - Recursive descent parser validates grammar using BNF rules.
  - Consumes token stream output from lexical analyzer.
- **Lexical Analyzer** — Feb 2025
  C — Language Processing — *GitHub*
  - Classifies lexemes as keywords, identifiers, literals, or operators.
  - Handles syntax edge cases in symbolic streams.
- **QuickHybridSort Analysis** — Spring 2025
  Python — Algorithms — *GitHub*
  - Benchmarked QuickSort/InsertionSort hybrid across input sizes.
  - Plotted crossover point to determine optimal threshold.
- **0/1 Knapsack Zoo Trip Simulator** — Spring 2025
  Python — Dynamic Programming — *GitHub*
  - Applied bottom-up DP to plan optimal zoo routes under constraints.
- **OOP Java Tools** — Spring 2025
  Java — Serialization, I/O, Exceptions — *Texas Tech*
  - Built file tools, test scorer, and calculator using Java OOP.
- **Assembly Language Programming** — Fall 2024
  x86 Assembly — Computer Org. — *Texas Tech*
  - Wrote MASM programs for Fibonacci, RNGs, and endian conversion.
  - Demonstrated register usage, memory control, and array indexing.

Technical Skills

Programming Languages:
Proficient: C, Python, Java
Familiar: x86 Assembly, Bash, LaTeX, C++, Scheme, Prolog
Learning: JavaScript, SQL

Tools: Git, VS Code, Overleaf, MobaXterm, Eclipse, PyCharm, Linux (HPCC), CLI Editing
Concepts: Lexical Analysis, Parsing, Recursion, OOP, Multiprocessing, Dynamic Programming, ISA

Organizations

- **Google Developer Student Club (GDSC)** — Aug 2023 – Present
  Member, Texas Tech University
- **Association for Computing Machinery (ACM)** — Aug 2023 – Present
  Member, Texas Tech University