

ALFREDO GUTIERREZ

Dallas, TX ◊ alfredo.gutierrez.dev@gmail.com ◊ (214)-228-8513
github.com/notalfredo ◊ linkedin.com/in/alfredo-gutierrez ◊ notalfredo.github.io

EDUCATION

The University of Texas at Arlington
Bachelor of Science, Computer Science

Graduated December 2023
Overall GPA: 3.90

Relevant courses Compilers, Computer Graphics, Machine Learning, Operating Systems, Algorithms

TECHNICAL SKILLS

Programming languages	Rust, C, C++, Python, SQL, TypeScript
Frameworks, libraries	OpenCASCADE, OpenCV, Roboflow, FastAPI, React, Next.js
Tools	Git, Linux, Docker, CMake
AI tools	Claude Code, Conductor

WORK EXPERIENCE

Software Engineer at RMFG

June 2023 - July 2026

API-driven sheet-metal fabrication startup

- Replaced a manual quoting team by building the C++/OpenCASCADE engine behind an online quoter that unfolds STEP sheet-metal parts and detects holes and countersinks to price instantly, cutting turnaround from hours to seconds at hundreds of quotes a day.
- Eliminated the need for a dedicated CAD team by automating part prep on STEP assemblies (C++, OpenCASCADE): weld-seam detection, bend and corner reliefs, hole correction, shape repair, and thickness/bend-radius regeneration.
- Saved thousands per week in material by building a grid based, no fit polygon nesting engine (Rust) that maximizes sheet utilization, reuses remnant stock, and emits CNC G-code with kerf compensation, lead-ins, and micro-joints.
- Enabled parts to nest onto real scrap instead of new stock by building a computer-vision pipeline (Python, OpenCV) with a trained Roboflow model that detects leftover metal on the cutting bed.
- Lowered the barrier to entry while raising technician pay by building shop-floor tools (Next.js/TypeScript) that turn specialist CAD/CAM work into simple, guided steps anyone could run.

UTA Undergraduate Theoretical CS Teaching Assistant

August 2022 - May 2023

- Led sections for 50 students in theory of computation (formal languages, automata, and Turing machines); graded exams and weekly assignments alongside a team of 5 TAs.

UTA Computer Science Cyber Security Research Lab Assistant

June 2022 - June 2023

- Researched malware packing classification with hardware performance counters; trained ML classifiers on a labeled dataset (Python), co-authoring a published IEEE paper.

PROJECTS

OpenKittenCAD C++, Flex, Bison, OpenCASCADE GitHub Source

January 2024 - May 2024

- Open-source CodeCAD application (C++) that compiles part definitions written in code into 3D solid geometry through an OpenCASCADE kernel.
- Designed a custom scripting language (.kts) with functions, typed parameters, and a pipe operator, parsed by a Flex/Bison front end.

Knell Labs Graphics Educational Aid TypeScript, Next.js, Three.js GitHub Source

June 2023 - December 2023

- Senior design project built with a small team: an open-source, browser-based 3D modeling tool akin to Blender.
- Implemented in-browser 3D modeling, rendering, and STL export with React Three Fiber (Three.js).