

# Gerardo Silvestre Gutierrez

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## Skills

**CAD:** SolidWorks, Onshape, Inventor, Fusion 360, KiCad, SolidWorks Visualize

**Analysis:** SolidWorks Simulation (FEA (Finite Element Analysis), CFD (Computational Fluid Dynamics)), Ansys

**Programming:** Python, C++, Matlab, Simulink, Visual Basic

**Manufacturing:** Die Casting, Rapid Prototyping, Sheet Metal Design, EMI Design

## Education

### California State University, Fullerton

M.S. in Mechanical Engineering	Expected May 2026
B.S. in Mechanical Engineering	May 2023

## Experience

**Mechanical Engineer, Swiftech – Anaheim, CA** August 2023 – Present

- **Designed and prototyped** an innovative 5U liquid cooling server for AI data-centers, **reducing thermal output by 30%** and allowing for increased compute density.
- **Created** a highly manufacturable liquid-cooled PC design, **decreasing production costs by 20%** through a die-casting-centric approach that simplified the chassis and internal component geometry.
- **Led** customization projects for B2B clients, spearheading the white-boxing and customization of companies product line to showcase their hardware, **resulting in new strategic partnerships and revenue.**
- **Developed and implemented** the company's Product Data Management (PDM) structure, improving file findability by 50% and **reducing the lead time** for sending production packages to manufacturers.
- **Headed an R&D team** in developing and validating a 30-product pipeline of new liquid-cooling components using SolidWorks CFD and custom thermal test benches.
- **Managed** communications with international manufacturers, **resolving product defects** by implementing new Quality Control (QC) processes to prevent future issues.
- **Produced** detailed assembly guides, including torque specifications and build order, **improving the clarity of instructions for assembly staff.**

**HVAC Apprentice, Gutierrez Heating and Air Conditioning – Norwalk, CA** June 2016 – August 2023

- **Assisted** lead technicians with the installation, repair, and maintenance of HVAC/R systems, **ensuring all work was completed according to code** and industry best practices.
- **Coordinated** with city building and safety departments to acquire all necessary project permits, ensuring full compliance with local regulations and preventing project delays.
- **Facilitated project execution** by negotiating with and scheduling third-party vendors, such as landscapers and crane operators, to manage all site-specific and logistical requirements.

## Projects

**Computational Heat Transfer Toolkit** [github.com/gerryisrad/Computational-Heat-Transfer-Toolkit](https://github.com/gerryisrad/Computational-Heat-Transfer-Toolkit)

- **Engineered** a flexible, user-driven interface for applying boundary conditions and visualizing thermal gradients, **enabling rapid analysis and optimization** for industrial applications.

**Airfoil Analysis Solver** [github.com/gerryisrad/NACA-4-Digit-Panel-Method-Analyzer](https://github.com/gerryisrad/NACA-4-Digit-Panel-Method-Analyzer)

- **Engineered** a parametric NACA airfoil generator with built-in aerodynamic visualization to **streamline design and analysis workflows.**
- **Automated** lift and drag calculations using thin airfoil theory, enabling rapid performance assessment across a wide range of airfoil designs.