

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

- **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

- **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.