Matthew Sianarta

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Education

California State Polytechnic University, Pomona *Pomona, CA* *Graduation: May 2026*
Pursuing B.S Chemical Engineering and Materials Engineering Minor *3.29 GPA*
  Relevant coursework: Transport Phenomena I & II, Thermodynamics I & II, Kinetics & Reactor Design,
  Material & Energy Balances, Intro to Materials Science, Materials Science Lab, Computational Materials Engineering

Professional Experience

NASA, PRANDTL Wing Researcher *Edwards, CA* *Jan. 2022 to Aug. 2023*
- Conducted simulations and analyses comparing elliptical and bell-shaped lift distributions for aircraft wings
- Used XFLR5 and OpenVSP to model lift profiles and verify aerodynamic behavior under ASTM F3083 emergency conditions
- Performed root-cause evaluations and performance tradeoffs in simulation to optimize wing control characteristics
- Delivered findings in technical reports and participated in cross-disciplinary team discussions

Cal Poly Pomona, Senior Research Project *Pomona, CA* *Aug. 2024 to May. 2025*
- Performed ASTM G59 electrochemical tests on hot-isostatic pressed aluminum to evaluate corrosion behavior
- Led weekly team meetings and coordinated data presentation across materials and chemical engineering domains
- Applied statistical controls and monitored test repeatability for quality assurance
- Organized technical forums to address failure analysis and process optimization in manufacturing

Southeast Roofing and Construction, Project Manager *Baton Rouge, LA* *Nov. 2014 to Feb. 2018*
- Directed project quality and planning, ensuring milestone adherence, corrective actions, and budget controls
- Managed hiring and integrated personnel to project teams while documenting and reporting quality metrics
- Used 5S and process audits to streamline field operations and reduce project delays

USC ISI: SERC, Viterbi Fellowship Scholar *Marina del Ray, CA* *June 2022 to Aug. 2022*
- Developed autonomous robot navigation code with onboard sensor fusion and Python diagnostics
- Designed a test stand for mechanical failure mode detection on a docking system prototype

Victor Valley College, Chemistry Tutor *Victorville, CA* *Jan. 2023 to June 2023*
- Explained technical problems using structured root-cause breakdowns (e.g., 5 Whys) to improve comprehension
- Created interactive learning modules, translating complex chemical concepts into real-world analogies

AutoZone, Commercial Driver / Parts Specialist *Hesperia, CA* *Feb. 2021 to Aug. 2023*
- Assisted commercial and retail customers in identifying automotive components that addressed specific mechanical issues, requiring diagnostic reasoning and attention to detail
- Regularly verified incoming and outgoing parts orders for accuracy and completeness, reinforcing attention to quality assurance and control procedures

Menkoi Ya Ramen, Prep Chef *Claremont, CA* *Feb. 2018 to present*
- Identified workflow inefficiencies and implemented prep-time improvements, reducing total preparation-to-service time and supporting a consistent product quality standard
- Maintained strict adherence to cleanliness, food safety, and procedural standards—paralleling ISO and 5S principles used in industrial settings
- Delivered responsive customer service and resolved concerns in high-pressure environments, mirroring the rapid troubleshooting and cross-functional communication required in supplier quality roles
- Collaborated with kitchen staff and management to ensure quality consistency across shifts, reinforcing the importance of corrective action and feedback loops
- Supported training of new staff on preparation standards, improving consistency and performance within a team-based workflow

Leadership & Presentation

Material Advantage Club: Club President (2025)
- Hosted quality-centric presentations from JPL, Howmet, and industry experts

Bay Area Honors Symposium: Lead Presenter at Stanford University (2023)
- Presented research validating aircraft control profiles; communicated highly technical findings to diverse audiences

Base 11 STEM Scholars: Treasury Officer (2023)
- Collecting dues, preparing and monitoring the budget, and maintaining accurate financial records

Skills and Accomplishments

- **Quality Methods:** Root cause analysis (5 Whys, Fishbone, Pareto), ASTM G59, a technical reporting
- **Software:** XFLR5, OpenVSP, SolidWorks, COMSOL, ImageJ
- **Programming:** MATLAB, C++, Python
- **Machine Shop:** Welding, Soldering
- **Process Tools**: Control plans, PFMEA exposure, basic 5S knowledge, mechanical testing, simulation validation
- **Additional:** Fluent in English and Proficient in Spanish and Indonesian