

# Michael Jegalian

Los Angeles, CA 90027 • mjegal@outlook.com • (323)-605-3456 • michaeljegalian.com (portfolio)

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Seeking full-time opportunity in design, testing, and autonomous systems.

## Education

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### Bachelor of Science, Mechanical Engineering

California State Polytechnic University, Pomona

*Expected grad. May 2024*

Overall GPA: 3.42

## Relevant Coursework

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Design, Mechatronics, Digital Controls, Stress Analysis, Fluid Mechanics, Thermodynamics, FEA

## Technical Skills

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SolidWorks, Fusion360, GD&T, FEMAP/FEA, CFD, Python, Django, Office Suite, JavaScript, React, MATLAB, Simulink

## Experience

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### Glenair Engineering Intern – Glendale CA Filters Division

*June 2023 - August 2023*

- Conducted reverse engineering on a complex cutting machine, comprising diverse components such as PLC, actuators, relays, etc. mitigating risks on the assembly line.
- Documented detailed 'from' and 'to' specifications for electrical wiring systems, increasing efficiency and enabling effective maintenance procedures for hardware.
- Applied understanding of pneumatic and electromechanical systems to document the operations of machines, drafting electric and pneumatic diagrams/blueprints both by hand and MS Visio.
- Programmed software to allow the sorting of data in from-to excel workbooks using react to display data through a web UI which reduced human verification error by 100%.
- Conducted extensive research and utilized effective communication skills to contact various part manufacturers, ensuring accuracy and reliability of part numbers and technical specifications.
- Participated in automation engineering tours to gain exposure to cutting-edge automation technologies.

### Lockheed Martin AI Project

*May 2023 - September 2023*

- Collaborated in the design, development, and testing of an AI chatbot leveraging the power of OpenAI's GPT-3, specialized in solving complex Fluid Mechanics problems.
- Integrated the chatbot into a responsive web application using React JS ensuring a smooth user interface experience optimized for various devices and offering real-time assistance in understanding and solving Fluid Mechanics problems.
- Employed Django as the backend framework to manage and store user chat data efficiently, facilitating seamless communication with the database to retrieve and display AI-generated chat messages in real-time.

## Projects

### Quadcopter Drone Design

*January 2024 - Present*

- Conducted complex engineering calculations with hand stress analysis, fluid mechanics, and dynamics to optimize the design of a quadcopter drone, ensuring structural integrity and performance.
- Conducted Computational Fluid Dynamics (CFD) analysis using SolidWorks on propellers to optimize aerodynamic efficiency and thrust generation, saving power by over 30%.
- Generated comprehensive engineering drawings using ASME Y14.5 GD&T to effectively communicate tolerances and part specifications increasing quality assurance.
- Optimized product design for additive manufacturing (3D printing), reducing iteration time and enhancing part quality for better performance through systematic refinement.
- Incorporated generative & iterative design dropping weight by 40%, reducing costs and build time by 25%.

## Honors and Activities

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### Member, American Society of Mechanical Engineers

- Generated presentations and explored artificial intelligence integration into mechanical engineering.

### Captain, Dunkin Dolma Intramurals Basketball Team

- Led and coached a basketball team fostering skill development and scheduled coordinated practices.

### Music Producer – Original piano music compositions and arrangements.