Christopher Ng, E.I.T.
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EDUCATION

California Polytechnic State University **San Luis Obispo, CA**
Bachelor of Science in Mechatronics Mechanical Engineering September 2020 – June 2024

- **GPA:** 3.87
- **Relevant Coursework:** Computational and Analytical Heat Transfer Modeling, Mechatronics Design, Applied Mechanical Controls, Design for Strength and Stiffness Modeling

RELEVANT EXPERIENCE

Senior Design Project **Solar Turbines**
Senior Project Team Member September 2023 – Present

- Determined the sponsor's needs and product applications to conduct research on relevant existing gas turbine engine and mechanical sealing products, technologies, and methods
- Generated multiphase reports and produced technical presentations to communicate design concepts and processes to management
- Constructed and presented numerical results verified by analytical analysis from computational thermal and structural stress analysis FEA studies to justify the chosen mechanical sealing design
- Utilized CAD SolidWorks modeling to develop a to-scale design for the gas turbine seal as well as a scaled-down prototype
- Developed testing plans and manufacturing steps for a prototype to validate the design's performance and determine potential issues
- Conversed with vendors and internal funding faculty for procurement of various coating metal E-seals, metal stock material, and other components and required equipment for manufacturing, assembly, and testing of the prototype

Automated IR Sensor Turret **Mechatronics 405 Project**
Mechatronics Team Member January 2024 – December 2024

- Designed an electro-mechanical system to integrate Python programs to operate an encoder and infrared camera sensor capable of automated motor control
- Managed the team's scheduling and tracking deadlines along with cloud organization of documentation
- Programmed embedded software for I2C and UART communication between an STM32 microcontroller, peripheral devices, and a computer
- Developed micropython drivers for DC motors, servos, encoders, and a PID controller for closed-loop control
- Utilized CAD SolidWorks modeling and drafting for mechanical parts and electronic schematics
- Developed and selected components for embedded hardware electronics for PCB board design

Ride Engineering Competition **Cal Poly Amusement Park Engineers and Designers**
Mechanical and Controls Staff Member January 2022 – April 2023

- Used SolidWorks CAD modeling and structural FEA to develop a rollercoaster track to ASTM F2291 standards
- Collaborated with with multidisciplinary teams and management to come up with solutions to resolve manufacturing, implementation, and troubleshooting problems
- Managed basic Arduino microcontroller logic for a servo actuated control system
- Designed a mechanical braking system that functioned as an E-stop when power is lost

WORK EXPERIENCE

Ascentec Engineering **Tualatin, OR**
Engineering/Machinist Intern July 2022 – September 2022

- Read and ensured compliance of fabricated parts to technical drawings and GD&T specifications
- Inspected high tolerance parts using optical comparators and other high resolution measuring devices
- Independently operated and maintained Haas and FANUC CNC machines and tooling for part fabrication

CERTIFICATIONS AND SKILLS

Engineer in Training (E.I.T.) Certification September 2023
Issued by the Oregon State Board of Professional Engineers, License #103955EI

Technical Skills: SolidWorks CAD Modeling, Drafting, FEA Modeling, Computational Fluid and Heat Transfer Simulation Modeling, Ansys Fluent CFD, MATLAB, Microcontroller Programming, PCB Design, Autodesk Fusion, Python, C, EES, Microsoft Office, Data Gathering and Analysis