

Eric P. Stern

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EDUCATION

University of California, Berkeley

Master of Engineering, Mechanical Engineering – Cumulative GPA 3.87

May 2020

- Emphasis: Controls of Robotics and Autonomous Systems

Capstone Project: Control of Swarm of Unmanned Underwater Vehicles for Wireless Communication

- Led a team of students to design wireless communications used for an underwater laser based communications and tracking system using bidirectional lasers to send data while continuously tracking
- Selected as one of the top six teams of over 90 to present at the capstone showcase

University of California, Santa Barbara

Bachelor of Science, Mechanical Engineering – Cumulative GPA 3.47

June 2016

- Relevant Coursework: Control System Design and Introduction to Robotics: Robot Dynamics and Control

Senior Capstone Project: Waveguide Manufacturing Study

- Served as the project manager for a team of four mechanical engineers tasked with a manufacturing study of airplane radar waveguides with Orbitals ATK. Researched and tested new additive manufacturing processes for producing waveguides. Validated results through various tests at UCSB's materials research lab

Additional Classes

- RF Principles and Applications – UCSD Extension Fall 2017
- Programming Fundamentals II – Palomar College Fall 2017
- RF System Design for Wireless Communications – UCSD Extension Winter 2018
- Design Thinking and Systems Engineering – Georgetown University Fall 2022
- System Architecting and Design – Georgetown University (In Progress) Expected Spring 2024

WORK EXPERIENCE

Lawrence Livermore National Laboratory

Livermore, CA

Staff Mechanical Engineer, MRE Diagnostics Group

August 2020 – Present

- Served as the responsible system engineer for the comprehensive suite of neutron diagnostics and various X-Ray diagnostics within the Materials and Radiation Effects Team
- Led the successful development and implementation of the CryoXNBS platform on the 2022 National Ignition Facility "Breakthrough" experiment where ignition was achieved
- Engineered an open-end design architecture for several diagnostic load platforms to allow for an agile framework allowing more efficient integration and multiple collaborators to participate on a single experiment
- Tracked and managed project timelines, ensuring optimal manpower allocation and adherence to project goals as outlined in shot proposals
- Coordinated with technical staff and expert groups to ensure successful integration of diagnostic platforms
- Assisted with training other Materials and Radiation Effects Engineers in fielding experiments at NIF using the various X-Ray and Neutron platforms
- Worked with various internal and external collaborators to develop experimental configurations to meet their desired objectives
- Developed new procedures for the diagnostic inspection and validation process pre and post experiments, radiological sample tracking, and experimental setup templates allowing for less experimental variability and more efficient post shot data analysis
- Created several platforms to help measure System Generated Electromagnetic Pulse (SGEMP) effects and assisted with the preliminary data analysis, informing future experiments
- Cross trained and assisted with the Direct Laser Impulse experimental platform with fielding and running experiments
- Currently in training to become a NIF Daily Work Team Leader, consistently demonstrating a strong commitment to personnel safety
- Completed Foundations of Leadership training through LLNL and participate in the LLNL Engineering Mentoring program, demonstrating dedication to ongoing professional development

CalAmp**Carlsbad, CA***Associate Hardware Engineer → Engineer I, Mechanical**Apr 2017– August 2019*

- Designed plastic injection housing for electronics in a large scale production environment utilizing DFM principles
- Trained and assisted with managing several mechanical engineering interns
- Oversaw contract manufacturers for tooling design and fabrication
- Collaborated as a member of the hiring panel in the selection process for designers and interns
- Used FEA analysis tools to optimize design and injection molding parameters
- Generated parts, assemblies and drawings utilizing GD&T and ISO standards
- Designed EMI shield cans and cable harnesses
- Assisted electrical/RF engineers on PCBA board layout and schematic design
- Verified RF and thermal performance through active and passive GPS, Cellular, Bluetooth and Wi-Fi testing
- Worked on PCBA bring-up and development of the automation testing environment (ATE)
- Coded in Python and Labview to set up automation testing for validation

Hologic Gen-Probe**San Diego, CA***Mechanical Engineering Intern**June 2015– Aug 2015*

- Analyzed throughput on the proprietary Tomcat automated molecular testing instrument to increase the efficiency
- Developed process enhancements and validated improved workflows with mechanical, electrical, and software engineers, resulting in over 10% reduction in overall cycle time
- Produced 3D printed parts to determine feasibility of design changes allowing the machine to use competitors vials

Nusil (Formerly Applied Silicone)**Santa Paula, CA***Mechanical Engineering Intern**June 2014 - Sept 2014*

- Designed and manufactured automated medical grade silicone processing machines
- Created a pneumatic removable fixture for a six axis robot to hold and power attachments for improved versatility
- Worked to help development processes for more efficient and even silicon distribution and curing across the molds
- Designed, analyzed and built a chemical fume hood with optimal airflow for less cost than those commercially available

University of California Santa Barbara**Santa Barbara, CA***Undergraduate Teaching Assistant**Mar 2014 – June 2016*

- Served as a teaching assistant for ME10 – Engineering Graphics: Sketching, CAD & Conceptual Design
- Taught fellow students CAD and graded papers on GD&T and other design principles

ADDITIONAL SKILLS, ACTIVITIES, & INDEPENDENT ENDEAVORS

- Active Department of Energy (DOE) Q-level security clearance
- DOE Radiological Worker II Trained
- Engineer in Training (EIT) Certified – February 2017 (PE Planned Winter 2024)
- Experienced user of Project, Creo, LLNL's Engineering Lifecycle Management Tool (ELM-U), Jira, Solidworks, Labview, MoldFlow, Draftsight, Onshape, Fusion 360, Pads, OrCAD, KiCad, LT Spice, Visio, Excel, Word, and several more LLNL proprietary software applications
- Proficient in Java, Matlab, C, C++, and Python languages
- Deep understanding of modern and classical control methodologies along with state estimation techniques: Model-Predictive Control (MPC), Optimal Control (LQR/ LQG), PID Control, Kaman Filter, EKF, UKF, and Particle Filter
- Hobby machinist, welder, and woodworker
- Avid traveler and outdoor enthusiast