

PARKER J KNOPF | parker.knopf@gmail.com

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CAREER OBJECTIVE

Dedicated to leveraging proven experience with academic success to advance company goals. An unparalleled innate self-driven tenacity to problem-solve, lead, and collaborate with others to further technological innovation!

EDUCATION

MECHANICAL ENGINEERING, MS | (Controls and Mechatronics)

2023 - 2024

MECHANICAL ENGINEERING, BS | GPA: 3.87 (Cum-laude)

2019 - 2023

UNIVERSITY OF CALIFORNIA, SAN DIEGO

- **Relevant Courses:** Signals and Systems, System ID, Control, Statics and Dynamics, Mathematical Computation, Programming, Thermodynamics, Material Science, Fluid Dynamics, Solid Mechanics
 - **Clubs:** Triton Robotics (Engineer Lead), Human Powered Submarine (Engineer), Club Water Polo (President)
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EXPERIENCE

HOLOGIC | R&D (Mechanical and Systems) Engineer - Intern

June 2022 - September 2022

Precision Instrument System Engineering Project

500+ hours

- Developed from scratch a precision ultrasonic embedded system instrument to characterize tube height, relieving the duty of a engineers to conduct root-cause analysis of an instrument defect
- Trusted with autonomy to select electronic components, develop mechanical design, and program software

Prototype Development of Next Generation Product

- Integrated electronic modules into a self designed and assembled functional first-generation prototype
- Showcased to marketing team and other stakeholders, receiving positive feedback on prototype
- Conducted multidisciplinary tasks including software development, hardware integration, and iterative product development based on gathered feedback from external workflow operations

MORIMOTO LAB | Mechanical Engineer - Researcher

December 2022 - September 2023

UCSD Soft Robotics Research Lab

300+ hours

- Prototyped and developed an innovative non-invasive endovascular surgical device in collaboration with a small team of student researchers under the guidance of Professor Tania Morimoto.
- Evaluated feasibility through clinical trials, lab experimentation, literature research, and FEA
- Participated in clinical collaborator meetings to aid in product development and clinical adoption

VALITUS TECHNOLOGIES | Mechanical Engineer - Intern

April 2019 - September 2020

Product Development for Start-up Corporation

100+ hours

- Contributed to design of Critical AI Security Project for the USAF (United States Air Force)
 - Designed final CAD geometry in preparation for mass production injection molding
 - Quickly adapted to company workflow, including the use of foreign files created by international partners
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RELEVANT ENGINEERING PROJECTS

WEARABLE HAPTIC ARM | Obstacle Avoidance During Teleoperation ([paper](#))

Fall 2023 | 60+ hours

- **Project Scope:** Novel haptic armband to mimic obstacle collision of a RR manipulator during teleop.
- Designed mechanical actuators and implemented serial-protocol for cross-system communication

REVERSE OSMOSIS TESTING RIG | Senior Project from OceanWell ([portfolio link](#))

Spring 2023 | 200+ hours

- **Project Scope:** Structural rig and electronics board with actuators/sensors to characterize fluid flow
 - Lead weekly scrum meetings with a student engineer team overseen by career engineers/scientists
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SKILLS

Solidworks (CSWP) Serial Interface MATLAB Autocad Leadership
4-axis Milling Python/Java/C++ Ros2 CAM Commutative
3D-Printing Embedded Systems OpenCV Linux Organization

AWARDS

National Champion in SkillsUSA
Auto-Manufacturing Tech. Comp.
1st Place UCSD Robotic Comp.