

Bryce Rogers

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Ambitious and thoughtful engineer with experience in multiple technical fields. Enthusiastic teammate well-versed in technical organization and constructive communication in professional and academic contexts.

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EDUCATION

B.S. MECHANICAL ENGINEERING, 2022

University of Southern California | Los Angeles, CA

3.92 GPA, Summa Cum Laude

Half Century Trojans Scholar, Boeing Viterbi Scholar, Scion Scholar

PROFESSIONAL EXPERIENCE

PROCESS ENGINEER

2023 - present

TômTex | Brooklyn, NY

- Design electrical and mechanical systems to automate the chemical processing of a shrimp-derived textile

MECHANICAL ENGINEER

2024

CarbonBridge | Newark, NJ

- Designed hardware and controls for bioprocesses (e.g. bioreaction, filtration, concentration) at startup that converts methane emissions to sustainable methanol fuel via bacterial fermentation

LEAD BIOMECHANICAL ENGINEER

2023 - 2024

Edge Foods | Manhattan, NY

- Designed systems to perform upstream and downstream cell culture bioprocesses
- Cultivated adherent and suspended mammalian cells to produce recombinant growth factors in BSL2 lab
- Did technoeconomic analysis to inform biomanufacturing plans for lab, pilot, and commercial scale

BIOMECHANICAL RESEARCHER

2020 - 2022

University of Southern California | Los Angeles, CA

- Automated the generation, execution, and postprocessing of 100+ aortic bloodflow simulations using Matlab and computational fluid dynamics software; [coauthored resulting paper](#)
- [Coauthored a paper](#) in the Journal of Biomechanics investigating the noninvasive measurement of a novel index of cardiovascular health under Dr. Niema Pahlevan

ASTROBIOLOGY RESEARCH ASSISTANT

2017 - 2018

NASA Ames Research Center | Moffett Field, CA

- Created 3D models for the Volatile Ice Rheology Laboratory Facility Proposal
 - Assisted testing of prototypes for Mars Icebreaker and ELSAH missions under Dr. Christopher McKay
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SKILLS

Computer-Aided Design

Solidworks, NX, Fusion 360, SketchUp, Inkscape, Canva

Fabrication

3D printing, laser cutting, basic CNC, plasma cutting

Data Analysis/Visualization

Matlab, Mathematica, Excel

Computational Fluid Dynamics

ADINA, OpenFOAM

Electronics/Controls

Arduino, Raspberry Pi, NI LabVIEW, PID design, fluid control systems

Mammalian cell culture

Freezing, thawing, centrifugation, passaging, other fundamental processes

Bioprocess Design+Automation

Suspension bioreaction, protein filtration, freeze drying

Technoeconomic Analysis

Bioprocess economics and scale up

ADDITIONAL EXPERIENCE

ENGINEERING TUTOR

2023 - 2024

Lexicon Academics | Manhattan, NY

- Teach students 3D modeling/printing, electronics, programming and other engineering skills

OPERATIONS LEAD

2022 - 2023

High Impact Engineers | Remote

- Co-led, planned events, and community built for organization that sought to maximize engineers' impact via outreach, education, and talent matchmaking

MECHANICAL ENGINEERING INTERN

2021

Oceana Energy | Washington DC

- Provided design input for ocean- and river-based hydroelectric generation technologies
- Created technical 3D and 2D graphics for grant and patent applications

MECHANICAL ENGINEERING STUDENT

2018 - 2022

University of Southern California | Los Angeles, CA

- Designed and fabricated a novel two-membrane flexible wave energy converter; sourced parts, designed experimental apparatus, analyzed data, and presented poster of findings
- Designed and analyzed PD and PID controllers for one and two degree of freedom systems using Matlab SISOtool and Simulink; used time and frequency domain analysis
- Experimentally evaluated first and second order models of physical systems using lab hardware (oscilloscope, DAQ, sensors) and software (NI Labview)
- Used Solidworks and NX Nastran extensively to make 3D models of parts and assemblies, draft 2D drawings, and perform FEA and motion studies

MATH AND ENGINEERING TUTOR

2019 - 2021

University of Southern California | Los Angeles, CA

- Provided individual tutoring in calculus and physics to engineering undergraduates

MATH AND ENGLISH TUTOR

2018-2021

Mathnasium; TalentNook; JEI Learning Center | Pleasanton, CA

- Developed and taught custom Precalculus and AP Calculus curricula
- Tutored elementary, middle, and high school students in English, elementary math, trigonometry, geometry, algebra, ACT math, and calculus

VOLUNTEER, JOINT EDUCATIONAL PROJECT

2018

University of Southern California | Los Angeles, CA

- Taught yoga and mindfulness skills to second grade students

AUTOMOTIVE CAD DRAFTER

2017 - 2018

Butler and Brown Manufacturing LLC | Santa Clara, CA

- Composed models, drawings, and animations of automobile parts in a machine shop