Bryce Rogers

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Brooklyn, NY 11206

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

SKILLS

Computer-Aided Design	Solidworks, NX, Fusion 360, AutoCAD, Revit, Inkscape, Canva
Fabrication	3D printing, laser cutting, basic CNC, plasma cutting
Data Analysis/Visualization	Matlab, Mathematica, Python, Excel
Computational Fluid Dynamics	ADINA, ANSYS Fluent, 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 (oscillscope, 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