

LIAM S. RUSSELL, MEL ph. 415.845.7393 e: liam.s.russell@gmail.com

Profile:

This diligent and detail-oriented researcher is prepared to accelerate your technology development, push business forward, and collaborate in highly interdisciplinary teams. From process developments to commercialization, this innovator is motivated to bring your new technology or innovation to market.

Technical Skills:

Materials Characterization (SEM-EDS, XRF, TA, FTIR)

Process Simulation (Abaqus, ANSYS)

Data Analysis, (JMP, Excel, SQL, Labview)

Design of Experiments (DOE, GR&R, PPAP)

Professional Experience:

Twelve - Senior Production Characterization Engineer

July 2023 – Current

- Direct characterization method development in a pilot-scale production environment.
- Developing methods, validating results, training operators, developing quality standards, maintaining and servicing equipment including characterization instruments.
- Enforce, draft, and update inspection requirements, assays, methods, diagrams, for more effective training and delivery of SOPs using OraclePLM.
- Organize and coordinate data system requirements across teams for Spear-heading automation of Incoming Quality parts grading system for pilot-line production scale-up.

Bolt Threads, Inc. - RESEARCH ASSOCIATE III

November 2021 – April 2023

- Designed and executed experiments on bio-based and cellulosic fiber materials and Improved Targeted mechanical and aesthetic performance for product release.
- Manage and maintain process and analytical equipment and tools in wet-chemical lab spaces. Reviewing and training associates and technicians on safety procedures with my written SOPs.
- Quantify accuracy and effects of processing machinery for improved mechanical behavior.
- Plan, engineer, and commission scaled down process equipment for method development prior to scale up.

Click Materials Corp. - RESEARCH ENGINEER

January 2020 – June 2020

- Prescribed safe operational voltages through differential analysis study on coloration vs. applied voltage, tracking effective charge transfer and identifying side reaction peak potentials for extending effective electrochromic device operation lifetime.
- Organized direction for future experimentation and patent space exploration through synthesis of patent literature and state of the art research.
- Developed product stage gate objectives for joint development agreement and coordinated research materials for their completion.

Heliotrope Technologies, Inc. - ENGINEERING INTERN

October 2017 – May 2018

- Designed and executed experimental plans, applied statistical tools (JMP, LabVIEW, UV-Vis) to analyze coating color and performance, and participated in weekly discussions with engineering leadership.
- Validated suppliers of Lithium cell components (electrolyte, anode, & cathode) in glovebox, half-cell experiments.
- Co-invented new method for increasing the critical coating thickness of colloidal nanocrystal films to improve optical, electrical, and physical properties .
- Developed and documented Characterization methods to determine the porosity of a thin film by comparing thickness data calculated from X-ray Fluorescence and Profilometry data.

Education:

University of British Columbia, Class of 2019
Master of Engineering Leadership,
Advanced Materials Manufacturing

California Polytechnic State University, SLO
Class of 2017 Bachelor of Science,
Materials Engineering

Leadership:

The Melt Collective Project Coordinator
MEL Class VP for AMM

Cal Poly New Student and Transition Programs,
Orientation Leader
Alpha Sigma Mu, Materials Honor Society, Officer

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Technical Coursework:

Advanced Simulation & Modelling Tools for Materials Manufacturing (FEA), Case Studies in Materials Manufacturing, Advanced Composite Materials, Coatings and Surface Modification,