Iain Morgan

San Diego, CA | My Email | LinkedIn Profile

Relevant Skills

Software: Jira, JAMA, Windchill, SAP, SolidWorks, Git
Programming: Python, MATLAB, C++
Medical Device: ISO 13485/14971, Verification and Validation, Design Controls, Requirements Tracing, DFM/DFA

Work Experience

R&D Associate Engineer (Level 2) Apr 2024 – Aug 2024
Terumo Blood and Cell Technologies *Lakewood, CO*

- Defined and structured 45+ system-level requirements with cross-functional team as SME for new cell therapy device
- Increased maintainability of code by ∼50% for embedded state machine design through design trade-off analysis
- Deployed a tested and documented solution within 1 week for an on-market-product software issue for key customer
- Led team of 3 to develop and coordinate phase-based major revision software upgrade for fleet of 86 test devices
- Reduced sustaining costs by > $10k by mapping product dependencies in SAP to sunset 15+ software SKUs

R&D Advanced Research Engineer in Development June 2022 – Apr 2024
Terumo Blood and Cell Technologies *Lakewood, CO*

- Completed large feasibility study on preliminary technical design, led to approval of multi-million-dollar R&D project
- Wrote informal SDDs and ICDs on system design decisions to improve knowledge transfer to development teams
- Collaborated with Commercial and R&D stakeholders to translate VOC input to 25+ draft requirements for project
- Automated workflow for large-scale data analysis of device logs from testing using Pandas-based Python scripts
- Executed verification & validation protocols in BSL2 labs for flagship device and met all required deadlines

Biomedical Engineering Research Assistant June 2021 – Nov 2021
Ferguson Biomechanics and Biomimetics Lab, University of Colorado, Boulder *Boulder, CO*

- Imaged & analyzed 30+ murine femurs with microCT to determine effects of *Fshb* genotype on bone microstructures
- Presented poster on initial findings at CU Orthopedic Research Symposium as a Mack Clayton Award finalist
- Published abstract in *Molecular Reproduction and Development* as first author, highlighting key images and results
- Improved consistency and reproducibility across experiments in lab by writing SOP on imaging process and analysis

Materials Engineering Intern June 2020 – Aug 2020
Bradshaw International *Rancho Cucamonga, CA*

- Communicated with 30+ suppliers to gather material data for 1,000+ products for internal sustainability initiatives
- Conducted quality analysis tests on multiple products to ensure corporate standards were being met

Education

MS, Mechanical Engineering | *University of Colorado, Boulder* | GPA: 3.67 Aug 2021 – May 2023
BS, Mechanical Engineering | *University of Colorado, Boulder* | GPA: 3.61, BME Minor Aug 2018 – May 2022

Certifications

Associate Systems Engineering Professional (ASEP) | *INCOSE* May 2025
Mechanical Engineer In Training (EIT) | *California BPELSG* May 2025
Certified SolidWorks Associate (CSWA) | *Dassault Systemes* Dec 2019

Projects

Heart Rate Monitor System | *Personal Project, In Progress* May 2025 – Present

- Architected end-to-end solution for a heart rate monitor based on ESP32 MCU and Raspberry Pi server for web app
- Selected hardware components and software tech stack based on desired performance, constraints, and cost
- Currently working on embedded programming for ESP32 MCU and MAX30102 sensor in C using freeRTOS

Reinfusion Module for Apheresis Device | *Senior Design Project* Aug 2021 – May 2022

- Developed user needs and product requirements with trace matrix that would be used for device design verification
- Designed state-machine for software that controlled system components to complete a therapeutic procedure
- Reduced weight of structural components by 20% through use of FEA (static, linear model) in SolidWorks