

ROMAIN ASTIÉ

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EDUCATION

Northeastern University, Boston, MA

May 2021

Bachelor of Science in Mechanical Engineering, Magna Cum Laude

GPA: 3.7/4.0

Minor in Data Science, Minor in Experience Design

TA: Teaching Assistant to Dr. Kathryn Schulte Grahame in First-Year Engineering; tutored, mentored students and graded assignments

Activities: Northeastern Sailing (Executive Board), Northeastern Ski Team (Executive Board), Study Abroad in New Zealand, NU ASME

SKILLS

Applications: 3D CAD (Siemens NX, SOLIDWORKS), MATLAB, MS Excel (advanced), MS Word (advanced), PTC Windchill, AutoCAD

Processes: DFM, DFA, injection molding, ultrasonic weld design, basic GD&T, rapid prototyping (FDM, SLA, SLS), basic shop tools

Computer Science: Python, Data Analysis, C++, Arduino, HTML, JavaScript, Linux, Bash, Raspberry Pi, Git, D3.js, Tableau

RELEVANT EXPERIENCE

Northeastern University Capstone Project, Boston, MA

July 2020 – June 2021

Bearing Testing Platform - Sponsor: NASA JPL Mechanical Engineer / Tribologist

- Developed system requirements, created basic system layout and operating principle
- Performed static calculations and initial loading and deflection estimates using MathCAD
- Completed tolerance analysis; worked with university machinist for CNC DFM and to achieve correct fits and clearances
- Produced technical reports, conducted design reviews, and presented final system to capstone judges and NASA JPL staff

Black Diamond Equipment, Salt Lake City, UT

January 2020 – June 2020

Design Engineering Co-Op, Mountain Lighting Products

- Responsible for mechanical design development of headlamps, including the Spot, Black Diamond's best-selling product
- Brought Spot CAD to full maturity, utilizing design for manufacturing (DFM) and design for assembly (DFA) principles
- Spearheaded overhaul of headlamp pivots, improving manufacturability, durability, and ergonomics across all product lines
- Collaborated daily with industrial design team to generate and refine NX CAD models with complex ergonomic surfacing
- Worked closely with manufacturing staff and molding vendors to effect in-line, tool-safe changes and ease of use improvements
- Performed design, rapid prototyping, and hands on iteration of ultrasonic welds for new waterproof, rechargeable headlamps

Sonos, Boston, MA

January 2019 – December 2019

Mechanical Design Engineer / Product Development Co-Op

- Led mechanical and software development of Arduino/LabVIEW robotic cable testing fixture; gained program-critical insights into cable wear and performance degradation
- Assisted in MCAD development of capacitive sensing FPC; performed IDX exchanges between NX CAD and Allegro ECAD
- Overhauled antenna mounting system for RF test chambers, massively increasing ease of use and reducing chamber downtime
- Developed test methodology for measuring IR receiver range, allowing performance standardization across home theater line
- Worked in close collaboration with Boston, Santa Barbara, and China based teams across all engineering disciplines
- Presented progress, results, next steps of owned deliverables to product creation leader and hardware engineering teams

Abbott Laboratories, Cardiac Arrest/Heart Failure Division, Burlington, MA

January 2018 – June 2018

R&D / Mechanical Circulatory Support Co-Op

- Analyzed biometric sensor data using MATLAB; analysis included thousands of points of research data and led to major business development decisions. Findings presented before senior project leadership
- Developed Simulink RT software for real-time electro-mechanical heart simulation fixture; enabled benchmarking and cross-testing between all generations of HeartMate products from early 2000s to current
- Conducted testing and authored reports on material fatigue, strength, creep with Instron and Bose ElectroForce apparatus
- Completed Excel tolerance analysis for critical HeartMate3 updates; enabled 100% compatibility with all product/part revisions

BACKGROUND AND INTERESTS

- Native English and French speaker, fluent in Spanish. Lived three years in France; dual citizen
- Enjoy skiing, backpacking, rock climbing, canyoneering, mountain biking, international travel
- Amateur photographer, focusing on landscapes and astrophotography. Portfolio available: romain.astie.com/photography.html
- Personal electronics repair and tinkering; enjoy disassembling and repairing personal smartphone, laptop, scale helicopters, etc.