

DEREK REPSCH

MECHATRONICS DESIGN ENGINEER

derekrebsch@gmail.com

206.351.9222 | linkedin.com/in/drebsch

Bachelor of Science – Bachelor of Fine Art

A multi-disciplined maker drawn to the cutting edge.

Solidworks (CSWA), Siemens NX, Autodesk Inventor, Fusion 360, Hyperworks/OptiStruct, ANSYS, MSC Adams, Adobe CC, MATLAB, Arduino/C++, Python, HTML/CSS

EDUCATION

UNIVERSITY OF WASHINGTON SEATTLE

BS in Mechanical Engineering – June 2020

- **Boeing Sponsored Capstone** (details below)
- Design for Additive Manufacturing, 3D Printer Benchmarking, Rapid Prototyping
- Microcontroller based Product Design
- CAE: Finite Element Analysis, Topology Optimization, Static/Dynamic Simulation
- Automotive Engineering & Design
- Hands on CNC Machining

UW FORMULA MOTORSPORTS

Topology Optimization for 3D Printed Titanium Components – Boeing Sponsored Capstone

Design Lead / Project Manager: Complete redesign of FSAE upright for 3D printed titanium. **24% mass reduction, 300% stiffness increase.** Material testing and characterization. Manufacturing plan. Weekly meetings and presentations to Boeing mentors. *Winter 2020*

eTrain Technical Team Member

2019 FSAE Electric – 2nd Place Overall

Design Engineer: Redesign of Accumulator subsystem and enclosure (High-Voltage). Integration, electronic assembly, rapid prototyping, carbon fiber manufacture.

SCHOOL OF THE ART INSTITUTE OF CHICAGO

BFA in Digital Art & New Media – 2011

Audio/video installation, circuit design, sculpture.

PRATT CENTER FOR THE ARTS SEATTLE

Welding, blacksmithing, fabrication. *Summer 2016*

SARAH LAWRENCE COLLEGE

Audio engineering, modular synthesis, classical performance, theory, composition. *2005-2008*

WORK EXPERIENCE

DIVERGENT TECHNOLOGIES / CZINGER VEHICLES

Additive Manufacturing and Automation

Structures Engineering Intern: Design, simulation, and topology optimization of suspension subsystems. Startup scale company. Self-guided work. Regular contribution to meetings. Completed major redesign of subsystem resulting in **75% mass reduction** and highly increased functionality. Hyper-car class hybrid vehicle.

Torrance CA: Jun 2019 - Sep 2019

TWINLINE MOTORCYCLES

Apprentice Mechanic specializing in vintage Japanese motorcycles. Complete electrical / mechanical rebuilds. *Seattle WA: Oct 2015 - Sep 2016*

CUSTOMER SERVICE & SALES IN HOSPITALITY

Showing up on time since 2002!

Strong soft skills, impeccable work ethic, high attention to detail, accustomed to working at a fast pace and under pressure. Well versed in the art of multi-tasking. Experience working in diverse urban environments including local cafes, high volume bars, and fine dining.

NO NATION - TANGENTIAL UNSPACE ART LAB

Primary Organizer of DIY event and community space in Wicker Park. Live music, art openings, lectures and more. *Chicago IL: 2010 - 2011*

THE EMPTY BOTTLE / EMPTY BOTTLE PRESENTS

Intern facilitating local and major touring groups across several venues, assisting in office and on site. *Chicago IL: 2009*

EXPERIMENTAL SOUND STUDIO

Intern supporting fringe music not-for-profit, assisting with archiving, recording, editing, live sound and events. *Chicago IL: 2009*