McKinley Blandford

View my personal projects: kinblandford.com/home/portfolio

Education

University of Utah - College of Engineering AUGUST 2021 – Present
Mechanical Engineering Undergrad *4.0 GPA*

Highland High August 2017 - June 2021
AP Student *4.0 GPA, 33 ACT*

Research Experience

Assistant Undergrad Researcher JANUARY 2022- JUNE 2022
University of Utah Department of Mathematics

- Worked under professor Kenneth M. Golden on the mathematical modeling of arctic sea ice
- Began development of OpenPore, a microporous medium generation and analysis tool
- Briefly worked on fractal dimension analysis of arctic sea ice

Other Experience

Welding Shop Assistant SEPTEMBER 2019- JUNE 2020
Highland High Metal Shop *SLC, UT*

- Completed large fabrication commissions and fixed miscellaneous tools.
- One year of experience as a shop assistant and over three years of experience in the shop otherwise
- Capable of MIG, TIG, Flux Core, and Stick welding

Supervisor JUNE 2021- DECEMBER 2021, MAY 2022 - AUGUST 2022
Sweetaly Gelato *SLC, UT*

- Responsible for opening and closing the store, managing chores, communicating with teammates, and helping customers with anything they need.

Assistant Graphic Designer / Layout Artist JULY 2020 - AUGUST 2020
Utah Women's Mural *SLC, UT*

- Graphic design / arangement of the mural
- Remote workflow management

Art Director AUGUST 2019- JUNE 2021
The Highland Rambler *SLC, UT*

- Redesigned the Highland Rambler newspaper and its branding
- Created a remote file management / version control system

Computer Programming Proficiencies

Python – Highly Skilled
Matlab – Proficient
C – Proficient
Java – Familiar
C Sharp, Rust, R – Languages I will learn next

Projects (see: kinblandford.com/home/portfolio)

Desktop RPN Calculator

Personal Project

- Created a fully functioning RPN calculator for desktop computers. Written in python.
- Features include: all standard scientific calculator functions, function definition, numerical integration and differentiation, numerical root-finding, matrix operations, variable definitions, powerful unit conversions, and more.
- See: https://www.kinblandford.com/home/blang

Microporous Medium Generation and Analysis Tool

Research Project

- WIP prototype software that generates microporous mediums. Written in python.

Numerical Modeling

School Projects

- Created a mathematical model and simulation of a pneumatic-piston powered train and performed multivariate optimization on its parameters.
- Created a mathematical model and simulation of a ball on a track to predict minimum release heights in order for the ball to make it around a loop-the-loop.

Double Acting Piston Pump

School Project

- Designed and prototyped a double acting piston pump.
- This particular design is original, and was an idea I have had since I was 8!

Awards & Honors

Utah Flagship Scholarship
University of Utah *2021-2024*

Sterling Scholar - Skilled and Technical
Deseret News *2021*

Valedictorian
Highland High *2021*

Other Skills

Problem Solving: This is my particular forte
CAD: SolidWorks
Numerical Methods: Proficient in using numerical methods to solve engineering problems
Math: Extensive knowledge of PDE's, ODE's, Fourier analysis, and linear algebra
Materials Science: A strong grasp of material properties, behavior, and the design implications thereof
Physics: A notable intuition for statics and dynamics
Software (in general): Very quick to learn new software
Fabrication: Capable of operating heavy machinery and welding

References

Francesco Amendola - Owner of Sweetaly Gelato - +1 (xxx) xxx-xxxx