

Alexander Klein

www.alexklein.net | 617-733-2969 | aklein37@jhu.edu

Education

Johns Hopkins University, BS Mechanical Engineering Baltimore, MD

- GPA: 3.58 | Dean's List Recipient | Mathematics Minor | Space Science Minor Expected June 2022
- *Engineering Courses*: Mechanics-Based Design, MATLAB, Statics, Dynamics, Electronics, Materials, Fluids
- *Mathematics Courses*: Calculus, Linear Algebra, Differential Equations, Probability & Statistics, Number Theory
- *Interdisciplinary Courses*: Space Science/Technology, Sustainable Development, Disaster Risk Mitigation, Linguistics
- *Teaching Assistant* for Mechanical Engineering Undergraduate Seminar for first-year students (Sep. 2020 – Present)
- *Machine Shop Manager* (on-campus job): organize, repair, and stock shared machine shop (Oct. 2019 – Present)

The Rivers High School Weston, MA

- GPA: 3.97 | High Honor Roll Graduated June 2018
- Awarded Cum Laude Society, Interdisciplinary Studies Prize, and Photography Prize upon graduation
- Extracurriculars: Model UN Club President, Junior Class President, Yearbook Editor, Newspaper Staff Photographer

Work Experience

Ball Aerospace Boulder, CO

Facilities Engineering Intern Summer 2020; Fall 2020 – Present (part time)

- Project manager on several construction projects and facility improvements; winner of intern PM competition
- Oversaw contractors on chilled water study of manufacturing/assembly complex for Thermal Vacuum Chamber tests
- 3D scanned 150,000 square feet for Building Information Model; surveyed laboratory space for program security
- Learned about HVAC & building automation, aerospace industry supply chain, and spacecraft payloads & operations

FreshAir Sensor LLC Lebanon, NH

Product Development Team Intern Summer 2019; Spring 2020 (part time)

- Conducted tests on BLE, Ultrasound, RFID (used MATLAB & Arduino) for indoor positioning system feasibility report
- Tested temperature and humidity sensors; used Excel and RStudio for data analysis, visualization, and calibration
- Decreased product manufacturing time by redesigning and assembling a tool to batch measure sensor resistance
- Evaluated on airflow intake designs to improve device efficiency; researched IOT battery options and safety protocols

Alex Klein Photography, www.alexkleinphoto.com New England

Founder / Photographer 2012 – 2020

- Freelance work for 12 clients/businesses; photographed 30+ events; published in 6 newspapers, 4 magazines, 3 galleries
- Assisted professional photographer on 10 magazine and corporate shoots; photographed Governor and Olympic skier
- *Director of Marketing* for LiveDry Apparel (2017 – 2018): developed successful Kickstarter crowdfunding campaign
- *Creative Director* for Flash Gear Footwear (2015 – 2016): product and lifestyle photography; designed shoe boxes

Fidelity Management and Research Company Boston, MA

Software Development Team Intern Summer 2017

- Created order tool in Excel VBA to place \$30 million in annual Fund of Funds trades on internal Fidelity system
- Presented work to SVP of Asset Management Technology; program utilized by Real Estate Portfolio Manager

Projects / Extracurriculars

Hopkins SAE Baja Racing (2018 – Present) *Controls Sub-team Lead*:

- Oversaw brakes and steering system on single-seat off-roading car intended for three collegiate competitions
- Led students through load determination, Solidworks iterations, FEAs, manufacturing (mill, lathe, EDM), and testing
- Designed 2020 rack & pinion with 33% weight reduction, focused on steering ergonomics, and mounting improvements
- Designed 2019 brakes system with improved packaging of new floor mounted pedals and master cylinders

Students for the Exploration and Development of Space (2019 – Present) *Vice President and Citizen Science Team Lead*:
manage finances; analyzed telescopic images to discover 40+ asteroids; experimentally measured 1AU with Mercury transit

Outdoor Pursuits Instructor (2018 – Present): trained in top-rope rock climbing anchor building, rappelling, leadership, emergency rescues, and risk management; lead day trips and pre-orientation program with 60+ college participants

JHU MUN Conference (2018 – 2019): co-authored background guides and facilitated debates for two committees

Independent Research / Modeling (www.alexklein.net): New England Ski Area Pricing (2019); Trump's Twitter Discourse (2019); Beam Stress and Displacement Analysis (2020); Coronavirus Prevention Comprehensive SEIR Model (current)