

# Alexander Klein

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

## Ball Aerospace Technology Corp.

ball.com/aerospace

Materials and Process Engineer

2023 – Present

- Created vacuum chamber to test material samples for outgassing, meeting ASTM E595 standards
- Confirmed complex lever arm ratio and correlated friction and wear results between mechanical and digital machines
- Processed shop orders to grit blast and apply coatings to material samples, tested for optical properties and cleanliness

Facilities Engineering Intern

Summer 2020 & Summer 2021

- Managed facility improvements and supported various projects as facility engineer; won intern PM competition
- Evaluated chilled water, compressed air, and liquid nitrogen systems in 380k sqft. complex; contracted report
- Worked on Building Information Model of high bay in Revit; surveyed laboratory space for TSCIF requirements

## goBuddy, Inc.

mygobuddy.com

Co-Founder & COO

2022 – Present

- Brainstormed platform to ease planning travel and activities with friends; incorporated company and hired interns
- Created functional prototype on App Store using Adalo; analysis of user feedback to finalize UI and wireframe

## Space Telescope Science Institute

stsci.edu

Design Engineer

2021 – 2022

- Development of ASSIST: active segmented hexagonal telescope for LUVOIR coronagraph research on HiCAT
- Iterated 6DOF and 3DOF segment designs, utilizing mechanical coarse actuation and piezo fine actuation stages
- Fabricated system level prototypes, achieving 11nm RMS wavefront error and confidence in optical bonding method
- Submitted and funded by \$180k IRAD, submitted \$2M NASA proposal for ultra-stable mirror (pending approval)

## UMN Genomics Center

genomics.umn.edu

Design Engineer

2020 – 2021

- Worked on team to develop a functional custom robotic uncapping machine for COVID-19 testing automation
- Designed novel gear mechanism for synchronous uncapping rotation, fabricated with 3D printed components
- Created adjustable pipette matrix for automatic sample spacing conversion between racks

## Alex Klein Photography

alexkleinphoto.com

Photographer

2012 – 2020

- Freelancer for 12 clients/businesses; photographed 30+ events; published in 6 newspapers, 4 magazines, 3 galleries
- Assisted professional photographer on magazine and corporate shoots, photographed Governor and Olympic skier
- LiveDry Apparel *Director of Marketing*: developed successful t-shirt Kickstarter crowdfunding campaign

## FreshAir Sensor LLC

freshairsensor.com

Product Development Team Intern

Summer 2019

- Conducted tests on BLE, Ultrasound, RFID for indoor positioning feasibility study (used MATLAB & Arduino)
- Decreased product manufacturing time by designing and assembling a tool to batch measure sensor resistances

## Fidelity Management and Research Company

fidelity.com

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

## Johns Hopkins University

Graduated 2022

BS & MS in Mechanical Engineering

GPA: 3.71

Aerospace Concentration & Space Science Minor

Graduated with Honors

**Coursework:** Spacecraft Hardware Design, Space Systems Engineering, Mechanical Properties of Materials, Creo, Aerospace Structures, Rocket Propulsion, Image Processing, ArcGIS, Sustainable Development, Disaster Risk Mitigation

## Hopkins SAE Baja Racing, Controls Team Lead & Testing Lead

- Created infrastructure to prioritize, plan, execute, and correlate vehicle tests; helped achieve 1<sup>st</sup> place design finish
- Manufactured vehicle with team (~300 hours milling, ~50 hours lathe experience) and utilized MTS tensile machine
- Designed 2021 rack & pinion with 33% weight reduction and 2020 brakes system for improved overall packaging

**Outdoor Pursuits:** trained in top-rope rock climbing anchor building, rappelling, leadership, emergency rescues, and risk management; Wilderness First Responder; led day trips and pre-orientation program with college participants

**Extracurriculars:** SEDS *Vice President*, AEPi *Treasurer*, LCSR Machine Shop *Manager*, Model UN *Committee Chair*