

# BENJAMIN (BEN) R. SCHROEDER

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## EDUCATION

### HARVARD COLLEGE

Bachelor of Science in Mechanical Engineering

September 2020-May 2024

Cambridge, MA

## PROJECTS

### HARVARD SATELLITE TEAM

September 2020-Present

Engineering team developing a CubeSat to test a nitinol solar panel deployment mechanism in orbit Cambridge, MA

*Payload Team Lead*

- Led the design and iteration of a shape memory alloy deployment mechanism for satellite-based solar cells
- Modelled fiber-reinforced actuation method for the roll-able solar panel payload in SolidWorks

*Bus Team Member*

- Co-authored white paper on HST's CubeSat development for submission to NASA's CubeSat Launch Initiative
- Evaluated and selected central on-board computer to meet mission goals and LEO environmental constraints
- Modelled CubeSat orbital performance in STK to analyze ground station communication capabilities

### PROJECT BOOM

October 2020-September 2021

Student-led project with industry advisors fabricating the first student-built supersonic UAV

Washington, DC

*CAD Team Lead*

- Organized new CAD team and leadership structure centralizing design deliverables across Project Boom
- Co-authored AIAA technical paper on the design of a supersonic UAV as a study platform for high-speed flight

*Aerodynamics Team – Member, CAD Lead*

June-October 2020

- Modelled and presented initial CAD aero body chosen for optimization toward supersonic flight
- Improved CFD performance and Area-Rule adherence through aero body optimization in SolidWorks and NX

### MARET ENGINEERING TEAM

September 2019-June 2020

Engineering team developing an underwater ROV and multipurpose robots for competitions

Washington, DC

*Team Leader*

- Led design and fabrication bids for multipurpose wheeled bot toward National Robotics Competition
- Oversaw expansion of Maret's Engineering Team from 12 to 30 members

*Team Member*

September 2017-June 2019

- Designed camera and electronics mounts for underwater ROV toward MATE ROV competition in OnShape

## EXPERIENCE

### HARVARD COLLEGE CONSULTING GROUP – Analyst

September 2020-Present

Competitive student consulting group serving clients from Fortune 10 companies to non-profits

Cambridge, MA

- Worked in a six-person team to optimize the technical partnerships strategy for a major government agency
- Conducted expert interviews and detailed market research to recommend best practices for leveraging complex industry-specific technologies

### LONESTAR LUNAR DEVELOPMENT – Research Intern

July-September 2019/2020

Start-up assembling private industry for the purpose of developing lunar base infrastructure

Washington, DC

- Presented a market analyses of data storage, low Earth orbit privatization, additive manufacturing, and robotics partners to company leadership

## SKILLS

**CAD** (SolidWorks, NX, OnShape) • **Programming** (Python, Arduino, MATLAB, LaTeX, HTML/CSS) • **Adobe** (Photoshop)

• Microsoft Office • Google Suite • Private Pilot's Certificate Training • Open Water Diver SCUBA Certification