

# Maxwell Afshar Urbani

---

(650) 619-4030

urbani@college.harvard.edu

## Education

**Harvard University**, Cambridge, MA - CLASS OF 2020 Candidate in Engineering Sciences (Mechanical and Materials Sciences and Engineering), Secondary in Visual and Environmental Studies.

**Burlingame High School**, Burlingame, CA - CLASS OF 2016

GPA 4.89, Class Rank 1/303

AP Scholar with honor, AP Scholar with Distinction, CSF Seal bearer.

Athletic Awards: CIF Central Coast Men's Diving 6th place.

## Work Experience

**Lighter Than Air Research and Exploration**, January 2018- Present. Engineering Intern.

Summer 2019: Designed and assembled a mobile 10m tall tower and rotation mechanism to secure an even larger rotating structure.

Prototyped an automated stage for alignment of assembly parts in 5 axes with less than 1mm tolerance. Integrated with Faro laser scanner.

2018: Designed and assembled a motor propulsion test stand. Also helped develop a flight simulator and a test stand and testing procedure for motor and propeller. CAD design and manufacturing of rapidly prototyped parts. Participated in a 2 week FEMAP NASTRAN training course.

**TechShop**, Redwood City, CA - OCTOBER 2017- November 2017 *Dream Consultant*.

Prototyping, design and fabrication consultant. Operation and maintenance of industrial and CNC machinery and fabrication equipment.

**Wilderness Survival Training**, SF CA, Cambridge MA - 2014-2017

*Private Instructor*. Private training on safety, shelter making, emergency field health, food sources, other survival skills.

## Extracurricular Activities/Organizations

**Harvard Undergraduate Design Labs**, *Founder, Project Manager, Treasurer*.

Established Harvard's only recognized undergraduate design club on campus. Skills include rapid prototyping (including 3D modeling, laser-cutting, 3D printing), wood and metal fabrication, plastics, graphic design.

**Harvard MATE ROV Underwater Robotics Team**, Cambridge, MA - 2016-2017  
*CFO, Co-Founder, Mechanical Engineer, Grant Writer*. Created manufacturing plan, frame design, waterproofing, grant proposal and operational plan. Raised \$11,000 for production and travel

**Harvard Active Learning Labs Maker Space**. Lab monitor.

Monitored maker space, trained students on machines and organized project nights

## Technical Skills

Pharo laser operation  
SolidWorks, Matlab, Autodesk, Fusion 360.  
FEMAP  
Project management  
Fabrication and prototyping  
Machine maintenance  
Mechanical Design  
ShopBot Alpha CNC router  
Drill Press, Tablesaw, Jointer  
Band saw, Miter Saw  
Drum sander  
CNC Plasma Cutter,  
CNC Water jet cutter  
Laser Cutters (epilog/universal)  
Sandblasting, Powder Coating,  
Hydraulic Finger Brake,  
Hydraulic press, angle  
grinders, sheet metal Brakes,  
rolls, shears,  
E-bike design and fabrication  
Adobe Illustrator, Corel Draw  
Excel, Word, Powerpoint  
Drawing, Painting

## Nationally & Internationally Competitive Teams

Stanford Club Diving  
League of Creative Minds  
Model U.N. Team

## Interests

Projects that bring life closer to science fiction. Exploring creative ways to communicate ideas and information through the built environment and the object. Empowering the individual with the skills and mindset to make!

