Michael Tucker

mic.tuc@me.com | 609.672.9724 | mictuc.github.io | Palo Alto, CA

EDUCATION

STANFORD UNIVERSITY

MS in Mechanical Engineering
Grad. June 2019 | Stanford, CA
Focus in Design and Manufacturing
GPA: 3.80

BS in Mechanical Engineering
Minor in Computer Science
Grad. June 2018 | Stanford, CA
Graduated with Distinction
Phi Beta Kappa Honor Society
Tau Beta Pi Honor Society
GPA: 3.94

PRINCETON DAY SCHOOL

Grad. June 2014 | Princeton, NJ
Cum Laude

PATENTS

US PATENT 11,597,528

Aircraft energy storage mounting system

SKILLS

DESIGN

CATIA • SolidWorks • OnShape
GD&T • FEA • CFD • CAM

FABRICATION

CNC Machining • Injection Molding
Turning • Milling • Woodworking
Sheet Metal • Vacuum Forming
Welding (MIG, TIG, Oxy-Acetylene)

ELECTRONICS

Circuit Design • Soldering • Arduino
Raspberry Pi • High Voltage Testing

PROGRAMMING

C • C++ • C# • Java • Python
Matlab • Swift • LaTeX • SQL

EXPERIENCE

JOBY AVIATION | Senior Mechanical Engineer

July 2023 – Present | San Carlos, CA

- Architected balance of plant and hydrogen powertrain integration for world's first hydrogen-electric VTOL aircraft
- Leading mechanical design of custom electric turbocompressor that runs at 200,000 RPM and has 6.5:1 compression ratio
- Architecting custom fuel cell system integrations for future aircraft concepts
- Designed and tested coolant powered liquid hydrogen vaporizer made from 3D printed aluminum

JOBY AVIATION | Mechanical Engineer

July 2019 – July 2023 | San Carlos, CA

- Architected state of the art battery cooling systems for eVTOL vehicles
- Designed over 60 flight parts and assemblies for the S4 battery system
- Led development for battery module sensing system
- Architected systems for battery install equipment, battery coolant fill equipment, leak testing equipment
- Collaborated with Toyota to build out $3M automated production line for advanced heat exchangers

PLENTY | Mechanical Engineering Intern

June 2018 – Sept. 2018 | South San Francisco, CA

- Planned and designed automated production line cells from scratch
- Specced and programmed industrial 6-DOF Fanuc robots (R-2000iC/270F)
- Designed, manufactured, integrated 5m long pneumatic end of arm tooling
- Managed integrators for a $1.1 million contract to design and develop custom conveyance mechanisms

TESLA | Battery Engineering Intern

June 2017 – Sept. 2017 | Palo Alto, CA and Sparks, NV

- Designed and optimized Model 3 battery pack parts in CATIA
- Designed components to aid Model 3 battery pack automation line
- Collaborated with suppliers from around the world
- Prototyped and tested various part designs

TESLA | Powertrain Quality Engineering Intern

June 2016 – Sept. 2016 | Fremont, CA

- Executed experiments to stress test various drivetrain components.
- Designed, built, and programmed coolant flow control systems.
- Automated data analyses of dynamometer performance.

PROJECTS

For full portfolio and media, visit mictuc.github.io

DYNAMIC DRIVER'S SEAT | ME 113 Capstone Project

Spring 2018 | Stanford, CA

- Winner of the ME Department's 2018 Fuch's Award.
- Designed and fabricated dynamically controlled driver's seat.
- Specced, wired, coded stepper motor, transmission, and controller.
- Used four bar linkages to lean driver into turns.