



BALAL KHAN

MECHANICAL ENGINEER

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EDUCATION

Northeastern University, Boston, MA

December 2019

Bachelor of Science in Mechanical Engineering, Minor in Business Administration

GPA: 3.81 | **Honors:** Dean's List (all), Magna Cum Laude

Interfaces Engineering Laboratory (Research Assistant) | Youth Development Initiative Project (Tutor)

Capstone: Dental Appliance Cleaner (Portable UVC Sterilization Case & Stationary Ultrasonic Cleaner)

COMPUTER & LANGUAGE SKILLS

Applications: NX, SolidWorks (CSWA), OnShape, ANSYS, JMP, PDM Vault, Teamcenter, Microsoft Office Suite, Keynote

Programming: C++, MATLAB, Simulink, LabView, Arduino, VBA, Processing

Certifications: Certified SolidWorks Assistant, Lean Green Belt, Warehouse Space Optimization Kaizen Team

Languages: English, Conversational in Hindi/Urdu

PROFESSIONAL EXPERIENCE

Apple, Cupertino, CA

March 2020 – February 2023

Power Product Design Engineer & Mentor for Apple's Engineering Technology Camp

Power Product Design Engineering Intern

August 2018 – June 2019

- Aided in design and mass production release of Apple's 20W fast charger (patented)
- Architected and released Apple's first GaN charger rated for 140W
- Advanced novel and patented magnetic modules for future adapters optimizing for cost, efficiency, and automation
- Designed sheet metal springs for a high voltage connector applications leveraging extensive finite element analysis and design for manufacturability best practices
- Developed injection molded plastic housings for electrical component modules and highly cosmetic enclosures
- Drafted part and assembly drawings using GD&T and statistical tolerance analyses (six sigma and worst case)
- Supported builds in China by overseeing component level testing at vendor sites and conducting DOEs to mitigate issues
- Evaluated competitor products by conducting teardowns and an exhaustive list of reliability and UL safety tests

Ideaz, Glastonbury, CT

May – August 2018

Mechanical Design Engineering Intern

- Developed concepts for a functional element of a TAVR Self Expanding Stent by constructing prototypes & validation testing
- Prototyped consumer product enclosures using both CAD and physical foam models
- Conducted extensive ergonomic studies for a R&D consumer electronic product
- Modeled and built test fixtures to test functionality of working products and prototype ideas

Eemax Inc. (a Rheem Company), Waterbury, CT

July – December 2017

Mechanical & Quality Engineering Co-Op

- Presented to management on comprehensive reviews of competitor products and advised on areas of improvement
- Worked with engineering, marketing, and procurement teams on NPI's by completing industrial designs, prototype testing, DFMEA's, CFD models, and price justifications
- Collaborated with Chinese suppliers on a weekly basis to solve engineering, production, and quality issues at their facilities
- Oversaw compliance witness testing for products being certified to D.O.E. 10 CFR 430 at Intertek facilities
- Investigated customer returned products for root cause of failure and communicated results internally and externally

LEADERSHIP

Additive

Founder

January 2018 – June 2020

- Established a non-profit which provides free 3D printers and semester long design classes to middle & high schools
- Reached 50 students at two different organizations while successfully receiving funding for three 3D printers
- Recruited and led a team of 8 individuals who ran day-to-day operations, while also establishing future initiatives

Northeastern University, Boston, MA

President - Pi Tau Sigma

September 2017 – April 2019

Outreach Coordinator - American Society of Mechanical Engineers

January 2018 – June 2018

BACKGROUND & INTERESTS

- Aid with the family business (*Shahani*) since 2011 and have been exposed to management roles, creating CAPEX reports, etc.
- Built a quadcopter from scratch using 3D printing and an Arduino in one week and under \$30