



ALEK N. TURKMEN

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SUMMARY

Alek is currently a junior at The Cooper Union Albert Nerken School of Engineering pursuing a Mechanical Engineering degree with an intended minor in Economics & Public Policy. Alek has a technical background in engineering, product development, prototyping, and software. Alek possesses expertise in the entire product lifecycle, beginning with conceptualization all the way to market ready solution. He has prototyping expertise with AutoCAD, Revit, Inventor Pro, SOLIDWORKS, and NX/Siemens. And backend/UI/UX with iOS/Swift, Python, HTML/CSS/JS, Adobe, Linux - OpenCV, SQL, MATLAB, and GR&R.

PROFESSIONAL EXPERIENCE

Northrop Grumman

Baltimore, MD

Manufacturing Engineer Intern (11 weeks)

May 2023 - August 2023

- Monitored production assemblies of high-quality mission-critical systems for AMEC, SMT and automated feed factory
- Pioneered optical recognition AI model for manufacturing inspection RPA with 93% speculative time/cost reduction utilizing 3D AOI/CMM instrument metrology, integrating systems with database using Python, MATLAB, Microsoft SQL
- Employed Excel and MATLAB for high-quality output of organic/ceramic microelectronic packages, bare chip/wire assemblies, and hermetic sealing; improving processes, product integrity, and longevity, while eliminating chip defects
- Comprehensive quality analysis using, Minitab, GR&R, lean manufacturing, 6sigma, capability study, and ANOVA
- Tolerance analysis, geometric dimensioning & tolerancing, design for assembly/manufacturability, and failure analysis

Loisaida Inc.

New York, NY

Remote Sensing IoT Technician

September 2022 - May 2023

- Systematized and constructed custom 3D printed enclosure of portable multi-sensor device to analyze residential building environments performing systematic testing to ensure durability, strength, and resistance to UV and water degradation
- Tested enclosure to perform at environmental operating limits (humidity, temperature, particulate matter accumulation)
- Skilled 3D printer and machinist, knowledgeable in Inventor, OnShape, CNC machining, VCarve and SOLIDWORKS

Jaros, Baum & Bolles

New York, NY

HVAC Summer Intern (10 weeks)

June 2022 - August 2022

- Developed 5 Tenant fit-out projects using Revit (BIM) with limited supervision including 540 Madison, One Bryant Park, OWTC, Hallet Towers and completed specific tasks on building/infrastructure upgrades; schedules, and floor plans
- Reviewed shop drawings, construction documents, construction administration of RFIs & client submittals, and performed 3 site visits and punch-lists with limited supervision to verify that models and specifications were implemented correctly
- Planned and coordinated routing of major distribution, main equipment rooms, risers, and commercial/residential spaces

EDUCATION

The Cooper Union, Albert Nerken School of Engineering

New York, NY

Bachelor of Engineering, Mechanical Engineering, Economics and Public Policy Minor

August 2021 - May 2025

- Half Tuition Scholarship (4 years), Cooper Union Merit Grant (4 years), ACE Mentor Scholarship (4 years)

PROJECTS

HAESTUS - Personal Startup

January 2024 - Present

- Bespoke luxury eyewear collections, creating unique one-of-one designs perfectly fit to each customer face shape

Queens Sculpture

January 2024 - Present

- Conceptualized and prototyped 6' x 22' x 1.5' NYC park sculpture celebrating queens; installing/publicly available 2025

Multi-Use Data-Acquisition Bio-Unit Group (MUDBUG)

August 2022 - May 2023

- Data implemented precision agriculture techniques using IoT sensing, predictive environmental data analysis

Drones Team

January 2023 - April 2023

- Palm-sized nano-quadcopter swarm drones demonstrating high-level systems engineering and real-time feedback control

Restoring BMW 1989 E32

May 2022 - June 2022

- Hands-on automotive hobbying repairing seat twist, electronic alignment, battery replacement, & driving lights rewiring

SKILLS & INTERESTS

Skills: Python, HTML/CSS/JS, iOS/Swift, MATLAB, Autodesk, SOLIDWORKS, NX/Siemens, Linux, Adobe Pr, Ps, Arduino

Fields of Interests: Entrepreneurship, Computer Vision, AR, UX/UI, AI, Astrophysics, Hacking with Swift, Power-Lifting

*Additional resume information available on request