Tom Park

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Experience

Boyce Technologies, Long Island City, NY
R&D Mechanical Engineer, July 2023 - Present

- Led the design and development of multiple projects including a smart illuminated emergency handrail for the Amtrak East River Tunnel Restoration Project, ruggedized digital displays and custom surveillance enclosures for the MTA, and an e-bike, trailer, and brake system for last-mile package delivery for Amazon.
- Oversaw 40+ R&D projects that entered various stages of the design process, 8 of which underwent full production and field installation.
- Designed hundreds of production-grade components for a variety of manufacturing methods, including laser cut/bent sheet metal, CNC milling, CNC lathe, waterjet, and additive manufacturing.
- Collaborated with cross-functional teams (electrical, software, in-house manufacturing, and third-party suppliers) to integrate complex systems and meet aggressive timelines.
- Founded and led the additive manufacturing division of the R&D department, establishing guidelines and overseeing part production, which is now implemented in the majority of projects.
- Developed and deployed a Python-based file management tool used by all design engineers to automate the retrieval, naming, and relocation of sheet metal cut/bend programs - reduced file management time by 50%.

PrintBio, Long Island City, NY
Mechanical Engineer, Apr 2020 - Dec 2022

- Played a key role in First-in-Human clinical trials for an autologous 3D-printed auricle, recognized as a significant breakthrough in tissue engineering.
- Researched, designed, manufactured, and tested a 3D printed clinical-grade bioresorbable mesh which has received 510(k) clearance.
- Improved mesh production throughput by 30% through optimization of GMP documentation and print settings.
- Designed GMP-compliant equipment to enhance tissue engineering processes including a subcutaneous chondrocyte dispenser, cellular mixing equipment, and a 3D printer for biocompatible polymer production.
- Designed and assembled components for a clinical-grade bio-printer for tissue engineering.
- Authored and executed GMP-compliant documentation (SOPs, protocols, and batch records) supporting successful IND submissions and clinical trials.
- Collaborated across R&D, Regulatory, Quality, and laboratory teams to develop clinical production workflows.

MYT Works, Inc., Brooklyn, NY
Mechanical Engineer, Aug 2019 - Apr 2020

- Designed and prototyped mechanical systems, including a handwheel-operated gearbox for precision camera motion and a flexure-based clamp system to reduce BoM and address known failure modes.
- Programmed and operated CNC mills and CNC lathes for part production and completed complex assemblies to order.

The New York Botanical Garden, Bronx, NY
Project Manager, 2013-2014

- Led The Macrofungi Collections Consortium, a digitization project to create a comprehensive list of macrofungi specimens in the United States. Digitized over 300,000 specimens through independent contribution, managing digitization personnel, and crowdsourcing efforts.

Education

The City College of New York (CUNY) - *BEng, Mechanical Engineering, 2019*
University at Buffalo (SUNY) - *BS, Biological Science, 2012*

Technical Skills

- **Regulatory Knowledge:** GMP, GDP, GXP, Quality Management Systems (QMS), Design Verification/Validation, IND submissions, SOPs, Protocols, Batch Records.
- **Manufacturing and Design Skills:** CNC mill and lathe, laser cutting, sheet metal, welding, injection molding, additive manufacturing (Resin and FDM), powder coating, anodizing, DFM, DFA, FEA, GD&T, maintain BoMs, mechanical testing.
- **Software**: SolidWorks (Parametric modeling, HSMWorks, Simulation, Motion Studies, PDM), Autodesk Inventor, Onshape, AutoCAD, 3D printing slicer software (Slic3r, Lychee, Chitubox, Cura), Microsoft Office Suite.
- **Programming:** Python, MATLAB, Visual Basic, LaTeX, Arduino IDE (C/C++).