

# Nick Brennan

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**OBJECTIVE:** A mechanical engineer with 7+ years of product development, robotic, and medical design experience interested in developing electronic and software skills; seeking multidisciplinary opportunities and innovative challenges

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## PROFESSIONAL EXPERIENCE

**Mechanical Engineer & Business Developer** | [NK Labs](#) | Cambridge, MA | June 2017 – Present

### *Mechanical Engineering*

- Worked through full design process: system architecture, detail design, FEA, fabrication, assembly, and testing
- Designed custom parts in SolidWorks for a wide range of applications, industries, and client companies
  - DFM: Multi-Axis Machining, Water Jet, MIG / TIG Welding, Rapid Prototyping, Injection Molding, etc.
- Drafted production drawings, interfaced with machinists, implemented GD&T practices when appropriate
- Specified part finishes such as anodizing, painting, coatings, and surface finish as needed
- Integrated with electrical design to determine PCB mechanical layout, connectors, clearances, etc.
- Led project to fully design, build, and test smart camera vision system for industrial environment; passed IP65 test
- Created automated 3-axis dark box test rig to assess light-sensitive electronics; wrote MATLAB control software
- Redesigned and refitted high-vacuum chamber for muon-catalyzed fusion physics experiment for ease-of-assembly, particle permeability, vacuum compliance, wire routing, and existing geometric constraints
- Coordinated and collaborated with various clients, manufacturers, vendors, testing facilities, etc.

### *Business Development, Marketing, & Recruitment*

- Managed project leads; primary point of contact for potential clients; drafted project proposals and grant applications
  - Led interview process for co-op and full-time hires: placed job postings, filtered resumes, ran phone screens, etc.
  - Overhauled and maintained company website, improved SEO, created ads, and increased monthly traffic by >3X
  - Hosted company booths at US Dept. of Energy ARPA-E Summit and BIOMEDEVICE Expo
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**Advanced Systems Mechanical Engineering Co-op** | [Boston Engineering](#) | Waltham, MA | Jan – June 2016

- Created complex parts and assemblies for AUV and robotic systems in PTC Creo and maintained in Windchill PDM
  - Designed static and dynamic seals, housings, and identified preferred CG and CB of marine components
  - Learned and applied basics of circuitry to assemble functional electrical prototype systems
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**Mechanical Engineering Co-op** | [Farm Product Development](#) | Hollis, NH | Jan – June 2015

- Engaged in design projects for clients across the biomedical industry from brainstorming to full-scale prototypes
  - Obtained skills for surface modeling within SolidWorks and earned Advanced Surfacing certification
  - Performed FEA using ANSYS Workbench and SolidWorks Simulation to determine necessary part geometry
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**Research & Development Co-op** | [LeMaitre Vascular](#) | Burlington, MA | Jan – June 2014

- Used SolidWorks to design, model, and produce drawings of parts and fixtures for R&D and Production use
  - Conducted device and component testing on samples across many of company's surgical product lines
  - Made regular use of laboratory equipment such as Instron Tester, Vision System, and burst pressure system
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## TECHNICAL SKILLS

*Applications:* SolidWorks CSWP | PTC Creo / Windchill | Onshape | ANSYS | Asana | Google Ads / Analytics

*Fabrication:* Mill | Lathe | 3D Printers (SLA, FDM) | Water Jet Cutter | Laser Cutter | DFM | Woodworking | Soldering

*Programming:* MATLAB | Git | Linux (Ubuntu) | HTML / CSS (Basic) | Python (Basic)

*Testing:* Instron Material Tester | Multimeter | Oscilloscope | Ingress Protection | High-Vacuum

*Languages:* English (native) | Spanish (limited working proficiency)

## EDUCATION

**B.S. in Mechanical Engineering**, Minor in Biomechanical Eng. | [Northeastern University](#) | Boston, MA | May 2017

*Honors:* Graduated *magna cum laude* | University Honors Program | Dean's List | Nat'l Hispanic Recognition Program

*Senior Capstone Design Project:* Automated Control System to Map Cartilage Material Properties | **Team Lead**

## INDUSTRIES

Robotics & Automation | Consumer Electronics | Biotech | Optics | Cryogenics | Aerospace | Scientific Instrumentation