Nick Brennan

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Professional Summary: Mechanical engineer with 9+ years of product development, robotic, and medical design experience; interested in developing electronic and controls skills; seeking multidisciplinary opportunities

PROFESSIONAL EXPERIENCE

Senior Mechanical Engineer | NK Labs | Cambridge, MA Jun 2017 – Present

Mechanical Engineering

- Engaged in electromechanical projects through full prototype design process: system architecture, concept development, detail design, multiphysics simulation, fabrication, assembly, debug, and testing
- Designed custom parts for a wide range of applications, industries, and client companies
  - DFM: Multi-Axis Machining, Waterjet, Rapid Prototyping, MIG / TIG Welding, Injection Molding, etc.
- Drew technical drawings, interfaced with machinists, implemented GD&T practices
- Devised and conducted experimental test procedures
- Collaborated with electrical design team to determine PCB mechanical layout, connectors, clearances, etc.
- Led technical project of smart camera vision system from concept through passing IP65 test
- Created mechanisms and housings for mobile, soft, and industrial robots, AUVs, and novel actuators
- Developed automated multi-axis test rig for light-sensitive electronics and wrote MATLAB control software
- Overhauled design of high-vacuum chamber in fusion energy experiment for ease-of-access and assembly, particle permeability, vacuum compliance, wire routing, and existing geometric constraints
- Coordinated directly with clients, manufacturers, vendors, testing facilities, etc. domestically and globally

Business Development, Operations & Recruitment

- Served as main point of contact for prospective client companies and evaluated projects for feasibility
- Managed project leads, organized internal teams, drafted project proposals and grant applications
- Led hiring process for co-op and full-time staff: filtered resumes, ran interviews, and checked references
- Planned and executed team morale events: birthdays, after-work bicycle rides, holiday bake off
- Hosted company booths at US Dept. of Energy ARPA-E Summit, BIOMEDEVICE Expo, and career fairs

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Advanced Systems Mechanical Engineering Co-op | Boston Engineering | Waltham, MA Jan – Jun 2016

- Created complex parts and assemblies for AUV and robotic systems (PTC Creo / Windchill PDM)
- Executed effective design strategies for sealing of static and dynamic marine components
- Learned and applied basics of circuitry and soldering to assemble functional electrical prototype systems

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Mechanical Engineering Co-op | Farm Product Development | Hollis, NH Jan – Jun 2015

- Worked on design projects for clients across the biomedical industry from brainstorming to full-scale prototypes
- 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 – Jun 2014

- Designed, modeled, and produced drawings of parts and fixtures for biomed R&D and production in SolidWorks
- Conducted device and component testing on samples across many of company's surgical product lines

TECHNICAL SKILLS

Applications: SolidWorks CSWP | Onshape | PTC Creo | MATLAB | MS Office | ANSYS | Git | Linux | Python (basic)
Fabrication: 3D Printers (FDM, SLA) | Mill | Lathe | OMAX Waterjet | Laser Cutter | DFM | Woodworking | Soldering
Languages: English (native) | Spanish (proficient) | German (beginner)

EDUCATION

B.S. in Mechanical Engineering, Minor in Biomech. Eng. | Northeastern University | Boston, MA May 2017

Honors: graduated *magna cum laude* | Dean's List | University Honors Program | Nat'l Hispanic Recognition Program
Senior Capstone Design Project: Automated Control System to Map Material Properties of Cartilage | **Team Lead**

RELEVANT EXPERIENCE

Team Mentor | FIRST Robotics NUTRONS Team 125, Boston, MA 2013 – 2017

- Taught STEM principles and skills to team of high schoolers via the hands-on approach of the FIRST program
- Guided students in designing assemblies with PTC Creo and machined precise components on lathe and mill

References available upon request