NIK LAL

Hardware Engineer

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Experienced electromechanical design engineer and leader, with full stack development of every facet of a hardware device. Led development of both micro scale and macro scale systems. Owned development of several devices from concept through production (1M+).

Skilled in agile leadership, Computer-Aided Design (CAD), SolidWorks, IoT, Hardware design, Systems Engineering, battery power optimization, pumping device design, sensor development, PCB development, and app development.

EXPERIENCE

isee AI

Sep 2019 to Present

Mechanical Engineer

-As a sensor engineer, I am responsible for all human-computer interactive sensing. Isee AI is based out of the Engine, the MIT tough tech incubator.

-Developed FSR based pedal sensor for unique challenges faced by the air braking system, including Schmitt-Trigger design, PCB layout, and assembly manufacturing.

-Developing a steering sensor to ensure human can regain control of the vehicle in the event of a high-risk failure.

-Brought expertise in PLM and PDM to support high-reliability engineering in an agile environment. DFMEA and risk analysis development lead.

Biobot Analytics

Sep 2018 to Jun 2019

Hardware Engineer

-Led hardware development and owned technology roadmap for an MIT spinout, seed round funded startup based out of Greentown Labs. Patent filed.

-Sourced and vetted external suppliers to ensure long term viability and short term cost, and took device through alpha, beta, and gamma prototype stages.

-During peak build directed team, consisting of 8 individuals to build out prototypes, with direct report expertise in electrical engineering, software engineering, and mechanical engineering.

-Built out fully functional hardware lab from 65 sq ft storage space to a 500 sq ft R&D testing facility, refreshment space, and hardware development lab.

-Successfully led R&D activities to develop wireless communication from directly within the manhole to enable distributed sensing.

Sensata Technologies

Feb 2014 to Aug 2018

Design Engineer

-Led process development for emerging technologies, and developed novel manufacturing techniques. Patent filed.

-Awarded patent for a sensor design that I took from Concept through Launch, 1MU+/year.

-Troubleshot factory and manufacturing issues in excess of $1M saved per project. Presented technical solutions for high impact failure modes, that I problem solved, at international, technical poster sessions.

-Volunteered as STEM mentor to local middle school.

Cornell Rapid Prototyping Laboratory

Sep 2013 to Jun 2014

Co-Founder

-Led on-boarding of 8 printers, a laser cutter, and other prototyping tools; developed methodologies for efficient usage including scheduler.

-Advised and mentored engineering students on best practices for 3D printing design.

Leidos

May 2013 to Dec 2013

Systems Engineering Intern

-Aggregated, transformed and managed raw and processed data of various advanced and complex FMV sensors.

-Created a number of tools in Java to accomplish these tasks, along with a series of accompanying data visualizations that enabled geospatial and Cartesian evaluation of autonomous sensor tracking.

-Implemented Big Data techniques in the storage and organization of sensor data output.

U.S. Department of State

Jul 2010, 2011, 20112

Summer Intern

- Supported various different agencies and departments for the US government, during three University summer breaks.

-Worked as an agent assistant for the Department of Homeland Security, an engineering technician to the Department of State, amongst other roles.

EDUCATION

Cornell University

2014 to 2015

Master of Engineering (M.Eng.), Systems Engineering, GPA 3.9

Cornell University

2010 to 2014

Bachelor of Science (B.S.), Mechanical Engineering

SKILLS

Leadership, project management, Solidworks, CAD, Java, ANSYS, CES Edupack, C Language, MATLAB, Atmel AVR, Matlab, Engineering, LabVIEW, Finite Element Analysis, Systems Engineering, SolidWorks, Sensors, PowerPoint, Computer-Aided Design (CAD), Mechanical Engineering, Microsoft Office, Testing, Microsoft Excel, Product Development, Machining, Research, Public Speaking, Leadership, Microsoft Word, Manufacturing, Six Sigma, Data Analysis, Research and Development (R&D), Vendor Management, Electro-Mechanical Design, Electro-mechanical Troubleshooting, Geometric Dimensioning & Tolerancing, Rapid Prototyping, Injection Molding, Failure Mode and Effects Analysis (FMEA), Communication, Simulations, Minitab, MEMS, Project Management,

CERTIFICATIONS

CSWP - Certified SOLIDWORKS Professional

SolidWorks Authorised Training Center

RECOMMENDATIONS

Irene Hu

8/16/19

Postdoctoral Associate, Massachusetts Institute of Technology

Nik and I worked together at Biobot Analytics to design, develop, and build an in situ electromechanical sampling device for wastewater networks. He is a phenomenal and incredibly innovative engineer, possessing both practical skills (including machining, CAD, white sheet design, troubleshooting, problem solving) and theoretical knowledge that spans the gamut of the mechanical engineering field (electrical, solid mechanics, systems, fluids, polymers, etc...). He is able to think quickly and on his feet, understand interdisciplinary needs (e.g. chemistry, biology), and generate creative, out-of-the-box, and yet extremely thoughtful ideas. He also possesses excellent project management and leadership skills, and did an amazing job driving our project forward and leading our hardware team. He is incredibly dedicated as well as a genuinely fun person to work with.
I would not hesitate to recommend him for future roles in this field.

Matt Murphy

9/16/19

Mechanical Design Engineer Intern

Nik is an incredible engineer with a contagious drive to get things done. He solves problems efficiently and with ease. He knows how to inspire a team to work to their full potential while teaching them invaluable skills and methodologies. He is an exceptional leader with the expertise to get projects done, no matter the deadline (even if it means leading an incubator-wide build sprint). I feel honored and fortunate to have worked under him. I strongly recommend anyone looking for a well-respected, motivated and inspirational technical leader to send Nik a message.