

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

EXPERIENCE

Biobot Analytics

Sep 2018 to Jun 2019

Hardware Engineer

- Led hardware development for seed round funded startup.
- Sourced and vetted external suppliers to ensure long term viability and short term cost.
- Took device through alpha, beta, and gamma prototype stages.
- Conducted a series of field tests and built testing facility for in house sampling, with development of in-house test fluid.
- 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
- Awarded patent for a sensor design that I took from Concept through Launch, 1MU+/year.
- Gained significant expertise in APQP
- Troubleshoot factory and manufacturing issues in excess of \$1M saved across different projects
- Volunteered as STEM mentor to local middle school

Cornell Rapid Prototyping Laboratory

Sep 2013 to Jun 2014

Co-Founder

- Led lab set-up and scheduler development
- On-boarded 8 printers, a laser cutter, and other prototyping tools; developed methodologies for efficient usage
- 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
- Assisted in the construction of autonomous solar power trailers for high-deserts sensor testing

U.S. Department of State

Jul 2011 to Jul 2011

Logistician/Intern

- Developed an all-in-one testing station for CCTV video equipment, including various types of cameras and power supplies, that included a direct uplink to an international network of cameras for the Department of State

US Department of Homeland Security

Jul 2010 to Jul 2010

Agent Assistant/Intern

- Collated case information, reviewed case data for relevancy, and assisted agents in various capacities.

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

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, Leadership

CERTIFICATIONS

CSWP - Certified SOLIDWORKS Professional

SolidWorks Authorised Training Center

RECOMMENDATIONS

Irene Hu

8/16/19, 2:35 PM

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.