

Objective: Full time job or internship opportunity using technical skills obtained

Degree: **B.S. Engineering Physics – Materials Concentration 3.0/4.0**
with **Semiconductor Certificate**

Rose-Hulman Institute of Technology, Terre Haute, IN

Status: Senior – May 2007

Skills:

- Lab experience (basic, electric/soldering, optical, MEMS / clean room protocol)
- Design – process flow – experimentation setup – physics modeling
- C++, PIC-C programming, OpenGL, particle physics simulation
- Team project work, systems engineering, circuit/packaging design
- Software: AutoCAD (Mechanical Desktop) – Blender3D – Kalypso 2.0 – Word – Excel – Maple 9 – LabView (7, 8, and DAQ interfacing) – COMSOL

Team Design Experience:

Rose-Hulman Institute of Technology, Terre Haute, IN

Engineering Practice (ECE361 Fall 2004)

Designed, outlined, tested, and almost programmed a modular autonomous robot with multifunctional transmissions, accurate (and robust) dead-reckoning navigation with error correction, and functional aesthetics.

Sr. Engineering Physics Project (EP415-17 Spring 2006 - Winter 2006/7)

Designed, outlined, tested, programmed, and fabricated various prototypes of a multiple input touchscreen interface; market, manufacturing, and development costs and analysis figured prominently throughout the project.

Robotics (ECE497 Spring 2007)

Program/analyze tracked mobile robotics platform's environmental interactions.

Lab Experience:

MEMS Research / Lab Technician (Summer 2005 thru Winter 2006)

- *Processes:* Thin-film deposition (sputtering, electron beam evaporation) – photolithography – micromanipulation – oxidation
 - *Analysis:* X-Ray diffractometry (XRD)– energy dispersive x-ray analysis (EDX) – coordinate measuring machine (no CNC)
 - *Microscopy:* Scanning electron (SEM) – x-ray – atomic force (AFM)
 - *Materials:* NiTi shape memory alloy fabrication
 - *Simulation:* tight-binding potentials, simple particle interaction
- Lab Assistant (Spring 2005 through Spring 2006)*
- Experimentation Setup & Troubleshooting
 - Tutorial instruction with Problem solving/creating