Varun Maheshwari

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Objective: To obtain a full-time position in the Electrical Engineering field.

EDUCATION

Rose-Hulman Institute of Technology, Terre Haute, Indiana (2016-present) **Current GPA: 3.52/4.00**
Bachelor of Science in Electrical Engineering **VISA Status: F-1**
Expected graduation: May, 2020

SKILLS

Languages: Java, C++, Python, MATLAB, Assembly, C, G
IDEs: Eclipse, Arduino, MPLAB, NI LabVIEW
Circuit simulation and prototyping software: PSpice, CST Design Studio
Communication protocols/interfaces: Bluetooth, RS232, UART, I2C
Others: Verilog, FPGA, PCB Design, Embedded System Design, Practical Lab Analysis

WORK EXPERIENCE

DORT Project Research Advisee, Rose-Hulman Institute of Technology, Terre Haute, IN January, 2019 – Present

- Collaborate with Dr. Wheeler of the Rose-Hulman ECE Dept., and Dr. Hong of the Soongsil University in electromagnetic research in the detection and location of non-linear scatterers using DORT applied with pulse inversion

Research Assistant, Georgia Institute of Technology, Atlanta, GA Summer 2018

- Collaborated with Dr. Madhavan Swaminathan and Dr. Kallol Roy of The School of Electrical and Computer Engineering at Georgia Tech to implement neural networks that predictively model interconnects in high-bandwidth systems
- Coded the network using Keras and Tensorflow Python libraries, achieved 70% accuracy in testing and provided a solid foundation for future work in predictive circuit modeling
- Made weekly presentations to document progress, and submitted a detailed report that outlined the neural network design

Electrical Engineering Intern, R&D-Altigreen Propulsion Labs, Bangalore, India Summer 2017

- Designed and tested a DC-DC boost converter that takes input from thermoelectric generators, and charges a battery at a stepped-up voltage
- Implemented a low-voltage cut-off circuit that disconnects the supply from load when the supply voltage falls below a threshold.
- Submitted a detailed project report documenting the current work such that it can be carried forward and productized by the company in future. Made a presentation to the CEO and Project Manager at Altigreen

Software Engineering Intern, Trivium e-Solutions Pvt. Ltd., Bangalore, India Summer 2015

- Implemented a Java application to collect, parse and classify customer information using Scrum methodology
- The application leveraged concepts of Object Oriented Programming, File I/O and MVC architecture

Student Caller, Rose-Hulman Institute of Technology Phonathon, Terre Haute, IN December, 2017 – May, 2019

- Call Alumni, Parents, and Friends of Rose-Hulman to raise funds for Rose-Hulman, as well as capture and update demographic information
- Utilize script messaging, structured ask amounts, and negotiation tactics in order to raise funds.
- Recorded the highest credit card pledge rate in 2018 (74%)

ACADEMIC PROJECTS

Servo Mounted Light-Sensor

- Implemented a program in C to interface with a PIC16F887 (8-bit MCU) to operate a servo in two modes
- Utilized a mounted phototransistor to collect data on light intensities. Collected data was displayed on a LCD that took 4-bit inputs

Amplifier Design

- Designed a common-emitter amplifier to meet user-specified parameters. The amplifier was biased using a Widlar current source
- Simulated the design in PSpice. Constructed and tested the circuit in a lab to verify functionality. Submitted a detailed report describing design specs, and performance

LEADERSHIP/HONORS/AWARDS

Rose-Hulman Institute of Technology
Dean's List 6 Quarters

Rahul Das

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5500 Wabash Avenue, Box 3300,
Terre Haute, IN 47803
United States of America

8, Mount View, Sion Trombay Road,
Mankhurd, Mumbai 400088
India

Objective: Searching for an Full Time position in the field of Electrical Engineering

Education: **Bachelor of Science, Electrical Engineering** **February 2020**
Rose-Hulman Institute of Technology, Terre Haute, IN

Courses: Embedded Systems and microcontrollers, Electronic Device Modeling, Principles of Design, Continuous Time and Discrete time signals and systems, Power and Energy Systems, Microelectromechanical systems, Communication systems

Skills:

Circuit design and microcontrollers
- Custom Circuit board design and fabrication
- Design and implementation of embedded systems using PIC microcontrollers
- Single Stage Amplifier design

Computers
- Programming experience in C, Python, Assembly, HTML
- MATLAB, LabVIEW, Cadence PSpice, Verilog VHDL
- DesignSpark PCB Layout

Internship: **Fleetguard Filters Private Limited** June 2019-August 2019
- Designed circuit for interfacing between mass airflow sensors and the calibration equipment
- Observed basic testing procedures and workflow management

Projects: **Rose-Hulman Institute of Technology** January 2019
Class Project: Design and simulation of a load store processor
- Used VERILOG to design ALU, register file and other supporting components
- Goal: Create a working load store processor capable of recursive algorithms

Rose-Hulman Institute of Technology December 2018
Teacher's Assistant for Embedded Systems
Assisted students in prototyping and implementing various embedded systems projects

Rose-Hulman Institute of Technology December 2018
Grader for classes in electrical circuits and digital systems

Rose-Hulman Institute of Technology September 2018
Team Project: Built Aluminum heat actuators on silicon substrate
- Used vapor deposition, electron beam evaporation, wet chemical etching and sputtering.
- Used a micromanipulator and a voltage source to test actuators.

Rose-Hulman Institute of Technology May 2017
Independent Project: Class AB Amplifier
- Designed and Implemented a two stage class AB push-pull audio amplifier
- Designed and printed a PCB for intended design using DesignSpark

Affiliations
- Institute of Electrical and Electronics Engineers (IEEE) August 2018-present
- Alpha Phi Omega fraternity treasurer October 2018-present

Rahul Das

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2nd October 2019

Dear Hiring Manager,

I am excited to be applying for an full time position at your esteemed firm. As an electrical engineer from Rose-Hulman Institute of Technology (USA), I understand the importance of clear communication, adaptability to a multidisciplinary environment and a systematic workflow.

As part of my internship at Fleetguard Filters Pvt. Ltd. I was able to help optimize testing procedures. Specifically, I was able to combine existing circuit designs and lay them on a printed circuit board. I included an emergency kill switch, a safety fuse and indicator LEDs for ease of operation. At the corporate office, I was able to calculate and predict the test data and write system operating procedures for all of the designs that I had made. Using MATLAB, I also was able to automate the internal report generated by the test engineers.

I am able to design, test and prototype electrical components and have done so on various microcontroller based sensor-actuator systems. As a grader and teacher's assistant for design and prototyping courses at Rose-Hulman Institute of Technology, I was able to evaluate and debug designs presented by students. I have been re-hired by Rose Hulman to perform in this fall.

One of my key strengths is my ability to grasp concepts and communicate with a multidisciplinary team. As part of a team responsible for building and testing microelectromechanical devices such as suspended cantilevers and aluminium heat actuators in a cleanroom, I learned and communicated concepts from various engineering disciplines. This involved stress and strain analysis, knowledge of etching chemicals, semiconductor fabrication methods and various electrical testing strategies. Furthermore, we performed a basic cost benefit analysis comparing various techniques of production and testing in order to determine the ideal solution for upscaling the operation.

I strive to inspire and be a part of teams solving complex global issues. At your firm, I will be able to constructively contribute to society and by observing practices followed by the firm, I will also be able to develop as a professional. It would be a privilege to be part of your firm's enterprising team of engineers. I would be glad to discuss my qualifications with you. Thank you for your consideration.

Sincerely,

Rahul Das