

Siddharth Challani

9 Keats Court, East Windsor, NJ 08520 | (609) 374-5289 | schal@seas.upenn.edu | www.linkedin.com/in/schal

Education

UNIVERSITY OF PENNSYLVANIA | Vagelos Integrated Program in Energy Research

Cumulative GPA: 3.65/4.00, Dean's List 2017-2018

Bachelor of Science in Engineering (BSE) in Electrical Engineering (May 2019)

Bachelor of Arts (BA) in Mathematics, Minor in Computer Science (May 2019)

Selected courses: computer architecture, embedded systems, circuit design, electromechanical prototyping, signal processing, data structures & algorithms, advanced calculus, linear & abstract algebra; analysis, probability

FUDAN INTERNATIONAL SUMMER SESSION, SHANGHAI, CHINA (SUMMER 2018)

Received a Penn scholarship to study Chinese and development economics at Fudan University in Shanghai

Skills & Abilities

SELECT PROJECTS

- Self-balancing two-wheeled robot with accelerometer PID controller for position and velocity control (C, Assembly)
- Senior design: wearable medical device for opioid overdose detection and automatic treatment (Altium, C, Solidworks)
- Full portfolio: www.seas.upenn.edu/~schal/works

TECHNICAL SKILLS

- *Programming*: C, MATLAB, Java, Arduino, Assembly, HTML/CSS/Javascript, Python, OCaml
- *Mechanical modeling & prototyping*: COMSOL, Solidworks, DraftSight, AutoCAD, laser cutting, 3D printing
- *Hardware design, simulation & testing*: Altium, LTSpice, CircuitLab, oscilloscope, DMM, signal generators

LANGUAGES

English, Hindi (native), Spanish (proficient), Mandarin Chinese (conversational)

Experience

COURSE DEVELOPER & HEAD TA | ESE 112, University of Pennsylvania (07/2017-PRESENT)

- Design lab section for new electrical engineering course replacing a core curriculum electromagnetics requirement
- Create, test, and debug lab experiments, write student assignments and TA handbook for teaching and grading
- Scale up to accommodate increasing enrollment due to popularity after successful first semester
- Teach and grade labs, lead team of ~7 TAs, organize grading/office hours, manage course website, order materials

TEACHING ASSISTANT | ESE 292, University of Pennsylvania (08/2018-PRESENT)

- Teach students to use Altium 18 (PCB layout, schematic capture) and Solidworks (CAD) for electro-mechanical design
- Conduct circuit design review, holding office hours, grade assignments, handle administrative aspects of the class
- Design 4-layer PCB and mechanical casing for battery-powered headlamp, teach students to do the same

UNDERGRADUATE RESEARCHER | MSMA Group, Singh Center for Nanotechnology (05/2016-06/2018)

- MEMS research to improve efficiency for fabrication processes for various projects in the lab
- Testing effects of internal nanostructures on flow rate in microfluidic devices
- Developing reusable seed layer process for fabrication of thin metal films, reducing time and cost of production
- Using COMSOL to conduct physics-based simulation (FEM) of microinductors to help develop new fabrication methods

LEADERSHIP & EXTRACURRICULAR INVOLVEMENT

- Residential advisor (RA) at Kings Court English College House, University of Pennsylvania (08/2017-present)
 - Build community by planning weekly events, mentor ~40 freshmen per year, serve as academic role model
- Director, Penn Lions dance troupe (04/2017-present)
 - Lead a ~25-member lion dance troupe. Run practices twice a week, train members, choreograph routines.
- Mentor, PEER Mentoring Program, University of Pennsylvania (08/2019-present)