NIRMIT DESHPANDE

nirmit.deshpande@gmail.com •*linkedin.com/nirmit − deshpande/*

EDUCATION

Birla Institute of Technology and Science, Pilani *2017 - 2021(Expected)*
Bachelor of Engineering
Department of Electrical and Electronics Engineering

RESEARCH EXPERIENCE

UCLA Samueli School of Engineering Los Angeles
Research Intern, Advised by Prof. Yuzhang Li *September 2020 - Present*

· Writing a review publication of in situ and operando methods for energy storage and conversion, with a focus on materials for batteries. Co-authored by Prof. Yi Cui (Stanford University).

Nanyang Technological University (ERI@NTU) Singapore
Summer Intern, Future Mobility Solutions *June 2020 - September 2020*

· Built a roadmap measuring technology readiness levels (TRL) and capability infrastructure for batteries in electric vehicle (EV) supply chain. Study focused on new nanomaterials for solid-state batteries.

MEMS, Microfluidics and Nanoelectronics Lab, BITS Pilani Hyderabad
Undergraduate Researcher, Prof. Sanket Goel's Group *March 2019 - August 2020*

· Fabricated a aupercapacitor using MnO_2/MWCNT Buckypaper electrode.
· Optimized the performance of PDMS-based Triboelectric Nanogenerator (TENG) with silver-ink contacts on an ITO/PET sheet.

Undergraduate Researcher, Prof. Parikshit Sahatiya's Group *January 2019 - January 2020*

· Developed RuS_2 on a flexible substrate for energy harvesting and sensing applications.
· Fabricated a paper-based MoS_2 sensor for pressure and breath-sensing applications.
· Synthesized various other TMD nanomaterials and graphene on flexible substrates for biomedical and electrochemical sensing.

PUBLICATIONS

V. Selamneni, P. Barya, N. Deshpande and P. Sahatiya, "Low-Cost, Disposable, Flexible, and Smartphone Enabled Pressure Sensor for Monitoring Drug Dosage in Smart Medicine Applications," **IEEE Sensors Journal**(2019): 11255-11261, doi: 10.1109/JSEN.2019.2935383.

INTERNSHIPS / INDUSTRY EXPERIENCE

RACEnergy Pvt. Ltd. *Hyderabad*
Research Intern *September 2018 - January 2019*

· Worked on novel charging infrastructure for electric vehicles. Simulated and worked on charging algorithms, vehicle-to-grid (V2G), battery-to-grid (B2G), and battery swapping stations (BSS).
· The team made it to the final rounds of Y-Combinator w2018 in California.

Mahindra Susten Pvt. Ltd. *Mumbai*
Summer Intern *June 2018 - July 2018*

· Domains included grid-integration for distributed solar setups, water management using solar technologies, and powering micro-scale agricultural equipment by retro-fitting it with cost-efficient clean energy solutions.

TECHNICAL PROFICIENCY

Relevant Courses	Thin Film Technology, Introduction to MEMS, Electronic Devices, Renewable Energy, Wind Energy, Environmental Development and Climate Change
Software & Tools	MATLAB/Simulink, PS-CAD, Systems Advisor Model (NREL), Arduino, Java, MS Office, Latex
Laboratory	MicroElectro Mechanical Systems (MEMS) Fabrication and Prototyping, i-V characterisation, FE-SEM, TEM, XPS, XRD, Raman spectroscopy Cyclic voltametry, charge-discharge analysis, new material synthesis

EXTRACURRICULARS

College Squash Team, Theatre, Indian Classical Violin