Hemanth NR

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# SUMMARY OF QUALIFICATIONS

* Expertise in lithium-ion and supercapacitors cell fabrication, from concept to completion
* Process optimization, materials selection and electrochemical impedance spectroscopy
* Work experience in dry room (1% & 10% RH), continuous coating machine and glovebox
* Strong research background in energy storage and conversion materials, polished writing and presentation skills

# EDUCATION

**University of Washington**, *Seattle, WA* Sept 2022 – Dec 2023 (expected) Master of Science, Materials Science and Engineering GPA 3.78/4.00

Advisor: Prof. Guozhong Cao

Relevant courses: Imaging at nanoscale and atomic scale, nanostructures and nanomaterials (thin-films, chemical/physical vapor deposition, lithography, spectroscopy), defects in materials.

**National Institute of Technology Karnataka (NITK)**, *Surathkal, India* Aug 2017 - Apr 2021 Bachelor of Technology, Metallurgical and Materials Engineering GPA 8.08/10 Thesis: Characterization of Paraffin Wax for Microelectronics and Thermal Energy Storage Applications

# RELEVANT EXPERIENCE

**Graduate student researcher, Sol-gel group, University of Washington,** *Seattle, WA* Sept 2022 – present

* Examining the effect of temperature on LIB's degradation for freight trucks (PACCAR).
* Developing experimental and data-driven model life-cycle prediction tool for LIBs.
* Interpretating cycle life of LIBs and correlating with drive cycle of EVs.

**Remote Research Collaboration,** *India* Apr 2020 - present

## (Funded: Dept. of Science and Technology under India-Korea bilateral project & NRF-Korea)

* Collaborated with researchers from Pandit Deendayal Energy University, Korea University and the University of British-Columbia in interdisciplinary project grants
* Evaluated and published articles on the performance metrics of MXene materials and their heterostructures for energy storage and neuromorphic computing applications

**Chief of Climate Action, Materials and Electrochemistry Intern,** Nov 2021 - Jun 2022

**Log9 Materials,** *Bangalore, India*

* Identified electrode degradation mechanism in supercapacitors using a split-cell system
* Achieved benchmark performance in supercapacitor cells by investigating different electrolytes
* Developed the one-pot synthesis process to prepare an aqueous anode slurry for LiBs
* Analyzed, interpreted and presented the cycler data of cells during weekly meetings

**Summer Research Intern, Defence Institute of Advanced Technology**, May 2019 - Jun 2019

## Department of Defence Research & Development, Ministry of Defence, Government of India, *Pune, India*

* Reviewed & published article on developments in MXene materials for energy applications
* Assisted PhD students in drafting and editing articles on conducting polymers for supercapacitor applications

# ADDITIONAL EXPERIENCE

## Vice-Captain Operations and Head - Braking Systems, Baja NITK Racing, Baja SAE India Mar 2018 - May 2021

* Administered and designed the braking system of an all-terrain vehicle per the Baja SAE rulebook
* Strengthened the operation strategies and secured funding three hundred and fifty thousand Indian rupee
* Secured 1st place in marketing presentation out of 80+ teams at Baja SAE India 2018, IIT Ropar
* Ranked 1st in B-plan and overall 2nd in the ATVC virtual championship 2021

**Data Entry Clerk, Covid-19 Vaccine Drive Volunteer** Jun 2021 - Sept 2021

* Ensured data entry accuracy by digital/manual verification of 3000 people.

**Joint Convenor, Incident 2019 NITK** Jul 2018 - Apr 2019

* Organized student participation in the five-day annual cultural festival attended by 8000 people

*Last updated 1/2/2023*