Kavan Joshi

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EDUCATION

- **University of California Davis(UC Davis)** Sep '21 - Jun '23 (expected)
  Masters(MS) in Materials Science & Engineering GPA : 3.77 / 4
- **Indian Institute of Technology (IIT) Gandhinagar** Jul '16 - Aug '20
  Bachelor of Technology (BTech) with Honors in Materials Science & Engineering GPA : 7.98 / 10

TECHNICAL SKILLS

- **Characterization:**Water Adsorption Calorimetry, Electron Microscopy(SEM), EDS, DSC, XRD, BET
- **Tools:** LAMMPS, OVITO, Atomsk, FactSage, ImageJ, Ansys, Origin, LaTeX, MS Office, Autodesk Inventor
- **Languages & Scripts:** Python, MATLAB

MAJOR PROJECTS

- **Surface Energy Measurements of Yttrium Oxide** Jan '21 - *present*
  Dr. Ricardo Castro & Dr. Jeremy Mason, UC Davis
  - Synthesis of Nanosheets of Yttria and doped Yttria rich in specific surface planes.
  - Determine the surface planes using microstructural characterization and specific surface energies using microcalorimetry.
  - Simulating the crystallographic free surfaces and calculating surface energies using a lennard jones potential in molecular dynamics.
- **Thermodynamic Modeling of Zirconia-Rare Earth oxide System** May '19 - Jul '19
  Dr. In-Ho Jung, Seoul National University(SNU)
  - Performed a review of fourteen $ZrO_2 - RE_2O_3$ systems for Thermal barrier coating application.
  - Modelled binary systems of Zirconia-Rare Earth Oxide systems based on the Modified Quasichemical Model and 5-sublattice model.
  - Optimized four binary Phase Diagrams by CALPHAD approach using Factsage.
- **Thermodynamic Optimization of Li-S-Se Ternary System** May '18 - Nov '18
  Dr. Manas Paliwal, IIT Gandhinagar
  - Explored Li-S-Se system for potential battery applications and studied their charging-discharging cycle.
  - Adapted Quasichemical Model for thermodynamic modelling for the binary systems.
  - Conducted an experiment to measure the Specific Heat of Lithium Sulphide using DSC 8000.
  - Optimized three binary Phase Diagrams by CALPHAD approach using Factsage.
- **Continuous Dynamic Re-crystallisation in Al-alloy** Jan '19 - Apr '19
  Dr. Kumar Jata, Jata Materials Solutions
  - Reviewed the Continuous Dynamic Recrystallization of Aluminum alloy critically during high temperature thermomechanical processing.
  - Investigated the effects of various process parameters such as working temperature on the final grain size of the alloy.
  - Analyzed the difference between the mechanism of Continuous and Discontinuous Dynamic Recrystallization.

ACADEMIC EXCELLENCE

- Accepted for a **Oral Presentation** at ICACC 2023 on Absolute Surface Energies of Yttrium Oxide.
- Received the **Dean's List** award for excellent academic performance in Semester 6.
- Received **Amalthea Scholarship** for Internship at Seoul National University for the summer of 2019.

SOCIAL WORK

- **NYASA** (Student run social initiative of IIT Gandhinagar) Jan '17 - Mar '20
  - Organized a 2-day, health and awareness camp for the villagers near IIT Gandhinagar, in campus construction workers, security and housing staff.
  - Organized numerous cloth distribution drives for the underprivileged people.

CO-CURRICULAR ACTIVITIES

- **Teaching Assistant**(UC Davis, IIT Gandhinagar)
  - TA'ed for 7 different courses across departments(Chemistry, Math, Materials Science).
  - Conducted Labs, Discussions sessions, office hours and evaluated assignments, reports and exams.
  - Planned and prepared teaching aids for labs, and discussions such as slides and grading rubrics.
- **Undergraduate Research Conclave**(IIT Gandhinagar)
  - Presented a poster on Thermodynamic Modeling of $ZrO_2 - RE_2O_3$ System in UGRC conducted by IIT Gandhinagar on 31st August 2019.

LEADERSHIP POSITIONS

- **ACerS President's Council of Student Advisors**(Student Delegate) Jun '22 - *present*
  - **Responsible** for representing student interests to ACerS and subsidiary committees, and divisions.
  - Conference Programming and Competition - Organizing SCHOTT Glass event at ICACC 2023.
  - Diversity and Inclusion Task Force - Identifying issues, spread awareness and take actions to foster and environment promoting free expression and exchange of ideas.
- **Industry Relations and Projects Secretary** Apr '19 - Jun '20
  - **Elected** by the student community of 2000 students(UG & PG) at IIT Gandhinagar.
  - **Led** the Industry Relations & Projects (IR&P) Council consisting of 9 members, which facilitates **collaboration between industry and academia** by enabling students to work on industry-relevant projects.
  - The council educates the student body about the problems in different industries by coordinating panel discussion and talks.
- **Entrepreneurship Initiative IITGN** Apr '19 - Jun '20
  - **Advisor** to the Entrepreneurship Initiative IITGN (EII), which helps budding entrepreneurs take their ideas to the early stage of incubation. The EII is also tasked with spreading awareness about entrepreneurship within the student community of IIT Gandhinagar.
- **Amalthea** (Annual Technical Summit - IIT Gandhinagar) Nov '17 & Oct '16
  - Amalthea '17 - **Led** the entire team of Amalthea '17 comprising of over 120 members as a part of the **Core Committee**. Gathered sponsorship of over Rs. 3 million required to conduct the summit as a part of the Sponsorship Team.
  - Amalthea '16 - Contacted Companies to gather sponsorship for conducting the summit as a part of the **Sponsorship Team**.
- **Class Representative**(Materials Science and Engineering) Aug '18 - Aug '20
  - **Elected** and served as a point of contact between the faculties and the entire undergraduate batch.
  - Organized various Industrial visits to facilitate the technical and manufacturing exposure required for the students.