

JEHAN DAFTARI

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EDUCATION

- BITS Pilani, K.K. Birla Goa Campus** Aug'23 – May'27 (expected)
Bachelor of Engineering (B.E.) in Electronics and Instrumentation Engineering with a Minor in Physics CGPA: 6.60 / 10
- PACE Junior Science College** Jul'21 – Jun'23
High School Diploma GRADE: 85.33%

SKILLS

- Experimental Skills and Techniques:** Spectrophotometry, Sputtering, Optical Microscopy, Spin Coating, Synthesis of Particles, SEM (with assistance), AFM, Zetasizer, Spin Coating.
- Tools/Platforms:** Origin, TrackPy, DeepTrack, ImageJ, SpectraSuite, Git, GitHub, ffmpeg, Autodesk Fusion 365, $\LaTeX$.
- Programming Languages:** Python, Java, C, C++, Flutter, HTML, JavaScript, Verilog.
- Languages:** English, Hindi, Marathi, Gujarati.
- Marketing, Sales and Public Relations:** Sponsorship, Operations and PR.

MAJOR PROJECTS

- Diagnosis and Targeted Drug Delivery Using Colloidal Particles** Jan'25 – Present
Dr. Indrani Chakraborty, BITS Pilani, KK Birla Goa Campus *Supported by Molbio Diagnostics Ltd. and SOLVE Scheme, BITS Pilani*
 - Synthesising Platinum-Polystyrene Janus Particles via DC Sputtering to create the base for the system to be used.
- Colloidal Studies for Micro-Robotics** Oct'24 – Present
Dr. Indrani Chakraborty, BITS Pilani, KK Birla Goa Campus
 - Working on the synthesis of multiple isotropic and anisotropic particles like cubes, peanuts, spheres and conjugates.
 - Studying collective behaviour under electromagnetic fields and analysing diffusion dynamics, phase transitions and mixed-particle systems.
- Developing a Liquid Crystal-Based Temperature Sensor & a One-Pixel Liquid Crystal Display** Jan'24 – Dec'24
Dr. Indrani Chakraborty, BITS Pilani, KK Birla Goa Campus *Supported by Project Sparkle, BITS Pilani*
 - Designed, built and calibrated a one-pixel twisted nematic display to show perfect switching of on and off states.
 - Formulated Cholesteric Liquid Crystals with 0.5°C precision and studied the effects of different cholesteryl compounds on ChLC properties.
- Deep Learning Based Image Analysis for Colloidal Assembly** Jan'25 – Present
Dr. Indrani Chakraborty & Dr. Snehanshu Saha, BITS Pilani, KK Birla Goa Campus
 - Using Graph Neural networks to identify multiple hierarchical structures, like chains of particles from the self-assembly of colloidal particles and identified their length and thus helped in characterization techniques.

PUBLICATIONS & SELECTED PRESENTATIONS

- Daftari, J., Barros, I., et al. (2026).** Bringing liquid crystals to the undergraduate lab: A liquid crystal-based temperature sensor and a one-pixel liquid crystal display. *European Journal of Physics*, 47, 025502.
- Presented 'Utilizing shape anisotropy across length scales for design of next-generation sensors', explaining the role of anisotropy from the molecular scale (Liquid Crystals) to the micrometer scale (colloids) to create sensors, at **CompFlu 2025**, IISc Bangalore.

HONORS & AWARDS

- Received the SOLVE Scheme Grant (Call 3) in October 2025 from SIRE, BITS Pilani, securing USD 2,500 for a deep-tech research project titled "Scalable Microbot Technology for Diagnostics and Therapeutics."
- Received the Molbio Student Innovation Award in February 2025 from Molbio Diagnostics Ltd., along with USD 1,250 in funding for a healthcare-focused research project titled "Diagnosis and Targeted Drug Delivery Using Colloidal Particles."
- Selected for Project Sparkle in January 2024 as part of a four-member interdisciplinary research team spanning all academic years, which received USD 2,500 for the project titled "Developing a Liquid Crystal-Based Thermometer."

EXTRA-CURRICULAR ACTIVITIES

- Peer Mentorship Program (PMP) & Support Program for Academic Resource and Knowledge Mentorship (SPARK)** Aug'24 – Present
BITS Pilani, KK Birla Goa Campus
 - Mentored first-year students through the PMP, providing academic and social support via regular meetings from Aug'24 to May'25.
 - Currently mentoring second-year students through SPARK, offering academic guidance in Electronics Engineering from Aug'25 to Present.
- Events & Workshops Head, Quark Organizing Committee** Aug'25 – Present
BITS Pilani, KK Birla Goa Campus
 - Organized Quark, India's largest student-run techfest, which has a budget greater than USD 175,000.
 - Leading a team of 100+ members to conduct 5+ workshops and 40+ events. Also managing logistics and operations for the entire fest.
 - Secured cash sponsorships worth USD 25,000. Starting the deal from initial contact to the execution of the sponsorship agreement.
- Student Coordinator, Practice School Division** Jan'25 – Jul'25
BITS Pilani, KK Birla Goa Campus
 - Managed the placement of 3,000+ students in summer internships, across various corporate sectors, organizations and government labs.
 - Facilitated graded academic internship programs integrating workplace experience, building sustainable university-industry partnerships.

ORGANISATIONS

- Nirmaan.org BITS Goa & Abhigyaan BITS Goa** Jun'23 – Present
Role: Project Lead | Cause: Education for All
 - Led and facilitated daily educational activities for students in grades 1–12 within the Lamani slum area.
 - Organized 15+ community events for children and families, with multiple successful initiatives.
 - Launched new literacy drives for underprivileged communities.