

# Defence Institute of Advanced Technology

Girinagar, Pune 411025

## School of Computer Engineering and Mathematical Sciences (SoCE&MS)

### ABOUT SoCE&MS

In the vibrant landscape of technological digital advancement, the **School of Computer Engineering and Mathematical Sciences (SoCE&MS)** emerged in 2022 as a beacon of innovation and progress. Born with the fusion of the **Department of Computer Science and Engineering (CSE)**, the **Department of Applied Mathematics (AM)** and **Data Centre**, the mission is to pioneer breakthroughs in the realm of Computing and Mathematical Sciences. The CSE, our trailblazing department was founded in 1987, with the first MTech course offered in 2009; while AM has been integral part of our institute's history since its inception. We stand on the shoulders of this rich legacy as to strengthen and apply modern digitization, as a step into a future defined by innovation, critical thinking, and scientific excellence.

As SoCE&MS, we offer a tapestry of **FIVE Post-Graduation academic programs** and research ventures, a testament to our commitment to diversity and multidisciplinary. From M.Tech., MS by Research, M.Sc., to Ph.D programs are tailored for scientists of R&D organizations, officers of Tri-Services, GATE-Qualified candidates, & self-financed scholars, our offerings are diverse as the ever-evolving world of technology. Among our flagship **M.Tech. programs** are **Modelling & Simulations, CSE (Artificial Intelligence), Data Sciences, and Cyber Security**. The school has extended its arms to science graduates with the introduction of **M.Sc. in Data Science** in 2023.

Our dynamic community comprises approximately 160 post-graduate students per year; fueled by the boundless curiosity of successful 21 Ph.D. completions. They thrive an ecosystem that fosters creativity and explorations, where the cutting-edge laboratories, state-of-art equipment, and a stellar faculty beacon them into the world of tomorrow's technological needs. Our 13 faculty members luminaries in fields ranging from Cyber Security, Artificial Intelligence, and Data Sciences to Ethical hacking, Cryptography, Computational Fluid Dynamics, Image Processing, and the rigorous mathematics.

Research at SoCE&MS isn't just a buzzword; it's our heartbeat. We are on the forefronts of cutting-edge research, impart trainings, actively managing funded projects and ahead in revenue generations. The school has received accolades for recognitions via patents & publications; in various national level hackathons; national & international conferences & seminars, Sports & Cultural events. SoCE&MS is the driving force behind the Data Centre activities, facilitating internet access, email service, and web hosting for DIAT.

SoCE&MS's dedication extends beyond the walls of DIAT. We are championing ATMA- NIRBHAR BHARAT INDIA@75 with PAN-INDIA Certification Courses in Artificial Intelligence & Cyber Security. The customized programs for Tri-Services and other national organizations underscore our commitment to empowerment and growth to build self-reliant nation. With resounding emphasis on research, interdisciplinary collaborations, and a global outlook, SoCE&MS stands tall as the vanguard of education, charting the course for a brighter future, to build self-reliant and sustainable nation. The aspiring candidates are welcome to the SoCE&MS where innovation know no bounds!

### **Institute Vision**

To be a Center of Excellence of international repute for Education, Training and research in Advanced Technologies with a view to strengthen national security and self-reliance.

### **Institute Mission**

To evolve as an Innovative Unique Research University to develop indigenous contemporary Defence related technologies in Navigation Systems, Wireless Sensors, Efficient Propulsion Systems, and Weapon Systems for DRDO and Defence Services, provide technological solutions to the Services optimize combat battlefield effectiveness and above all produce qualified quality manpower which can truly become an instrument for building a strong indigenous technology base in the context of creating a performing Defence Industrial Base in India.

### **School Vision**

To be a Center of Excellence of International repute to provide high-quality education, research, and training in the area of Modelling & Simulation (M&S), Data Science (DS), Cyber Security (CS) and Artificial Intelligence (AI) to promote innovation and entrepreneurship skills among the students with a view to strengthen national security and self-reliance.

### **School Mission**

- M1** To build strong education, teaching and research environment in the field of Modelling & Simulation (M&S), Data Science (DS), Cyber Security (CS) and Artificial Intelligence (AI) to meet requirements from Defence, specially related to national security.
- M2** To strive for continuous learning, innovation, entrepreneurship and quality research culture amongst the student community through effective government, industry & academia collaboration.
- M3** To encourage ethics, team work and technological leadership skills among students to solve complex engineering problems collaboratively by imparting strong theoretical foundation complemented with extensive practical training.
- M4** Engage with industry, government, DRDO, Tri-services and PSUs to transfer knowledge