

## **STATEMENT OF PURPOSE**

I am writing this statement of purpose to outline my strong desire to pursue a **Master of Science in Micro and Nano Technologies** at your esteemed university, **TU Ilmenau**. The field of micro and nanotechnology has always fascinated me, and I am eager to delve deeper into this exciting realm.

I obtained a **Bachelor of Engineering in Mechatronics Engineering** from Visvesvaraya Technological University in Belagavi, Karnataka, India, graduating in August 2023 with a **CGPA of 9.27**. In 2021-2022, I designed a gesture-replicating robotic hand, focusing on gesture recognition for remote robot control. In the following year, I delved into renewable energy by designing an inverter for a photovoltaic power generation system. These projects allowed me to apply theoretical knowledge to practical applications.

Beyond academics and language skills, I've gained practical engineering experience by interning at Bharat Fritz Werner and Scientific Platforms and Cosmic Explorations (Space), I delved into real-world applications of robotics, working with special purpose machines and participating in online programs.

Additionally, I've obtained certificates in Introduction to Artificial Intelligence and AI Master Class using Python, demonstrating my commitment to staying current with technological advancements. This thirst for knowledge extends to webinars, where I've participated in sessions on Hybrid Electric Vehicle Technology and Industrial Applications of CAD/CAM/CAE.

Currently, I'm gaining valuable industry experience as a Trainee Engineer in Research & Development at Nicomatic India Electronics. In this role, I utilize SOLIDWORKS to create 2D and 3D drawings for various products, solidifying my design and technical drafting skills. These experiences have not only bolstered my technical abilities but have also fostered a collaborative and solution-oriented approach to engineering challenges.

My background in Mechatronics Engineering, especially courses in Microcontroller and Micro and Smart System Technology, fueled my passion for miniaturization and the potential of micro and nanotechnologies. This Master's program in Micro and Nano Technologies at TU Ilmenau in Germany will help me gain a deep insights into the physics and chemistry at nanoscales, understanding how materials behave differently when they are reduced to nanometer sizes. Along with this, I will also learn the usage of various spectroscopy methods to characterize the optical, electrical, and magnetic properties of materials.

This course will equip me with the skills in using advanced microscopy techniques, such as scanning electron microscopy (SEM), transmission electron microscopy (TEM), and atomic force microscopy (AFM), to analyze materials at the nano level. Earning this degree will open doors to exciting research and development career like **Nanotechnology Researcher at leading organizations such as IBM or Intel**, where I can contribute to developing next-generation micro and nano devices that shape the future of various industries.

My decision to pursue advanced studies in Germany is influenced by a myriad of compelling reasons. Germany is globally recognized for its excellence in education, with numerous universities consistently ranking among the world's best. It is a hub of technological innovation, fostering a thriving environment for research and development. The nation offers a vibrant cultural scene and a high quality of life, making it an attractive destination for international students. Furthermore, degrees from German universities hold significant prestige worldwide.

I have chosen TU Ilmenau to pursue a Master's Research in Computer Systems and Engineering for the following reasons:

- TU Ilmenau is a renowned university recognized for providing high-quality education and research in engineering, natural sciences, and mathematics. Its longstanding tradition of excellence and innovation has earned it a place among the top universities ranked at #351-400 in QS WUR Ranking By Subject 2023.
- The Graduate Center at TU Ilmenau is a hub for interdisciplinary qualifications, offering the "Excellence in Science" certificate. This initiative showcases the university's commitment to fostering a broad skill set among its students.
- The university provides robust support for research endeavors through departments like Research and Transfer and Research Data Management. This commitment underscores the university's facilitation of impactful academic exploration.

**In conclusion, I would like to thank for considering my application. I hope to hear a positive response from your end.**

**Regards**

**Gagana Govindaraj**