**Shardashish Fellowship Statement**

*Tanmay Agarwal*

My journey in technology began with childhood curiosity—dismantling gadgets to understand their inner workings—and has evolved into a purposeful path toward contributing to India's technological advancement. As I pursue my graduate studies at Columbia University, I recognize that my educational and professional trajectory is inseparably linked to India's future growth and development.

Growing up in India provided me with firsthand insights into both our nation's challenges and its extraordinary potential. During my undergraduate years at Vellore Institute of Technology, I began to understand how technology could serve as a powerful catalyst for national development. My research on "Energy Aware Scheduling and Task Allocation Algorithms for Online Reinforcement Learning Applications in Cloud Environments" was motivated by India's growing cloud computing sector and the critical need for energy-efficient solutions in a country where sustainable technological growth is paramount.

My technical skills in full-stack development, particularly with React, Python, and NodeJS, represent more than personal achievements—they embody capabilities I intend to leverage for India's digital transformation. The 3D Portfolio website and Figma Clone projects I developed demonstrate the kind of innovative digital solutions that can help position India as a global technology leader. As our nation embraces the Fourth Industrial Revolution, professionals with advanced technical capabilities in these domains will be essential to ensuring India remains competitive in the global digital economy.

The experience I gained as Technical Project Head for the SCRS Chapter at VIT, where I mentored over 50 students through complex technical projects, reflects my commitment to knowledge sharing and capacity building—critical elements for India's technological self-sufficiency. This mentorship experience taught me that India's greatest resource is its human capital, and nurturing technical talent is perhaps the most significant contribution I can make to our country's advancement.

My work with an NGO teaching mathematics and science to underprivileged children revealed another dimension of India's development challenge—educational inequality. This experience reinforced my belief that technology must be harnessed not just for economic growth but for inclusive development. The small library I established in my neighborhood at age ten similarly reflected my early understanding that access to knowledge is fundamental to progress. These experiences have shaped my conviction that technological advancement must be coupled with accessible education to truly transform India.

During my internship at Pro Start Me Technologies, I developed an automated SEO reporting tool that reduced manual reporting time by 54% across multiple client accounts. This experience illustrated how efficiency-enhancing technologies can dramatically improve productivity in Indian businesses, potentially helping them compete more effectively in global markets. Similarly, my work optimizing web pages and increasing organic search CTR by 30% demonstrated how digital marketing techniques can help Indian companies expand their reach and impact.

My graduate studies will focus on advanced computer science, with particular emphasis on software engineering and computational systems. This specialization aligns with India's growing need for expertise in high-level software development and system design—areas that will be crucial as the country continues to develop its digital infrastructure and expands its technology sector. The knowledge and skills I gain will directly contribute to addressing India's technical challenges in these domains.

Upon completing my education, I am committed to applying my expertise in ways that specifically benefit India, whether by returning to work directly in the Indian technology sector or by facilitating knowledge transfer and international collaboration from abroad. I envision contributing to initiatives that strengthen India's digital infrastructure, enhance cybersecurity capabilities, or develop technical solutions to uniquely Indian challenges in areas such as healthcare accessibility, educational technology, or public service delivery.

The IEEE research publication I contributed to (DOI: 10.1109/TCSS.2024.3508089) represents the kind of scholarly contribution I hope to continue making—work that advances computer science globally while addressing challenges relevant to India's context. Furthermore, my selection to represent my college at the Smart India Hackathon demonstrates my commitment to innovation specifically focused on Indian development challenges.

My father's role as Chief Financial Officer at Surya Chambal Power Limited has given me insights into India's energy sector and the critical importance of technological innovation in this domain. This personal connection strengthens my resolve to contribute to technological advancements that support sustainable energy solutions—a crucial factor in India's continued development.

As India strives to balance rapid technological advancement with sustainable and inclusive growth, professionals with both technical expertise and a commitment to social impact will be invaluable. Through my education, professional work, and community engagement, I aim to embody this dual focus—advancing cutting-edge technology while ensuring its benefits reach all segments of Indian society.

The future I envision for India is one where technological excellence drives economic growth, enhances national security, improves quality of life, and creates opportunities for all citizens. With the advanced education I will receive and the global perspective I will gain, I am committed to contributing meaningfully to this vision of India's advancement.