Subhrajit Das | Director's PhD Fellow

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Academic Details

PhD in Computer Science and Engineering — **CPI: 10**
IIT Gandhinagar, Gujarat, India, Advisors: Prof. Abhishek Bichhawat & Prof. Yuvraj Patel — *2025–Present*

M.Tech. in Computer Science and Engineering — **CPI: 9.84**
IIT Gandhinagar, Gujarat, India, Specialization: Computer Systems — *2023–2025*

M.Sc. in Computer Science — **CGPA: 9.76**
University of Kalyani, West Bengal, India — *2021–2023*

B.Sc. (Hons.) in Computer Science — **CGPA: 9.89**
Panihati Mahavidyalaya (West Bengal State University), West Bengal, India — *2018–2021*

Class XII in PCM, Computer Science — **86.20%**
Kalyangarh Vidyamandir (West Bengal Council of Higher Secondary Education), West Bengal, India — *2016–2018*

Projects

WimpyGPU: Leveraging Commodity Hardware for Compute-intensive GPU Tasks: IIT Gandhinagar & University of Edinburgh (Oct '25 – present)

Investigating how clusters of commodity hardware can tackle compute-intensive tasks typically reserved for accelerators.

Developer Experience of Consent Management Platform Integration: IIT Gandhinagar (Oct '25 – present)

Investigating the usability challenges developers face when integrating Consent Management Platforms (CMPs) into web applications.

Accelerating Large Integer Arithmetic with AVX512 [1]: *M.Tech Thesis,* IIT Gandhinagar (Jan '24 – Apr '25)

Designed high-performance data-parallel algorithms for large integer addition and subtraction using AVX512, achieving average execution-time speedups of 2.06× and 2.32× respectively (up to 131k bits) compared to GMP. Additionally, designed a faster Vedic-based multiplication algorithm using AVX512-IFMA for 256-bit operands (1.83× speedup) and developed approximate arithmetic variants achieving average speedups of 2.52× for addition and 2.80× for multiplication.

TennisServe: A Parallel Game Matching Server with OpenMP & MPI: IIT Gandhinagar (Jan '24 – April '24)

Developed a tennis game matching server simulation where multiple players send requests for games. Utilized OpenMP threads and MPI calls to manage client requests and limited tennis court availability.

Positions of Responsibility

Teaching Assistant: IIT Gandhinagar (July '23 – Present)

Assisted with courses such as Distributed Systems and Cloud Computing, Computer & Network Security, Compilers, and Data Structures and Algorithms - I.

Class Representative: University of Kalyani (Oct '21 - Jun '23), M.Sc in Computer Science, Batch 2021-2023

Publications

[1] Subhrajit Das, Abhishek Bichhawat, and Yuvraj Patel, "DigitsOnTurbo: Leveraging SIMD for Accelerating Large-number Arithmetic," in *21st European Conference on Computer Systems (EuroSys 2026)*, 2026, Under Review.

[2] Pratyush Choudhary*, Subhrajit Das*, Mukul Paras Potta*, Prasuj Das, and Abhishek Bichhawat, "Online Authentication Habits of Indian Users," in *Proceedings of BuildSEC'24, Building a Secure & Empowered Cyberspace*, IEEE Society on Social Implications of Technology (SSIT), New Delhi, India, Dec. 2024.

Technical Skills

Languages: C, C++, Java, Python, Go, R, MATLAB, Bash, Prolog, Kotlin, HTML, CSS, JavaScript, JSP, SQL

Tools: Git, Docker, gRPC, OpenMP, MPI, SIMD Intrinsics, Valgrind, PERF, GDB, Wireshark, NS2, Mininet

Achievements

Jan 2025: Selected for the **Director's Fellowship** for admission into the PhD program at IIT Gandhinagar.

Dec 2024: Received the **Best Paper Award** for *"Online Authentication Habits of Indian Users [2]"* at BuildSEC'24.

2023: Secured **All India Rank 530** out of 75,680 in **GATE 2023 CSE** with a percentile of 99.30.

2022 & 2023: Qualified **UGC NET JRF & WB SET**