

Puneet Shrivastava

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ACADEMIC QUALIFICATIONS

Year	Degree/Certificate	Institute	CPI/%
2021 - Present	M.Tech	Indian Institute of Technology Kanpur	8.9/10
2015 - 2019	B.Tech	National Institute of Technology Delhi	8.37/10
2014	MP Board(XII)	Sarvodaya H.S. School, Datia	87.2%
2012	ICSE(X)	Holy Cross Ashram School, Datia	87.57%

TECHNICAL SKILLS

- **Programming Languages and Softwares:** Verilog HDL, C, C++, MATLAB, \LaTeX , 8085(Assembly Language) and Scilab.

AREAS OF INTEREST

Verilog HDL, Digital VLSI System Design, Digital Electronics and Analog Electronics.

COURSE PROJECTS

- Designed a **three digits BCD Adder/Subtractor** using **Verilog HDL** in both structural and behavioral way of development. The output of designed circuit was observed on a seven-segment display. For complete analysis the test-benches were also written for **timing diagram analysis** and to verify the results as per the required specification. (EE619A)
- **Pipelined 3 Level Unsigned Multiplier** using Verilog (EE619A)
 - Introduced parallelism by putting levels of registers in the combinational logic which results in improved speed.
 - Designed and implemented pipelined multiplier with two stage pipelining using **Verilog-HDL**.
- Control of Autonomous Underwater Vehicle (AUV) by comparison between different control techniques. (EE651A)
 - Performance comparison between PID and FOPID in MATLAB using AUV model made in simulink.
 - Developed Genetic Algorithm for tuning the PID and FOPID controllers using MATLAB.
- Developed **Morse Code Decoder** that can detect morse code and display output on a LCD, using arduino. (CSB 254)
- Line detection and path following, gesture controlled robot based on ATmega 32. (EEP 354)
- Developed console games in C++ like Tic-Tac-Toe, Snake and Tetris. (self project)

THESIS WORK & MAJOR PROJECT

- **Boundary Surveillance Using a Novel Target Switching Technique using MATLAB** (Thesis Work)
 - **Derived mathematical conditions** for different types of trajectories of an **unicyclic agent**.
 - **Developed a novel target switching technique** and shown its utility by **simulating boundary surveillance problem**.
 - Creating random complex trajectory of an unicycle agent by switching between patterns.
 - General guidelines to generate optimal trajectories for boundary surveillance.
- **Sign and Voice Recognizer** is a hardware tool which gives the voice to voiceless. (B.Tech Major Project)
 - Developed a **hardware glove** equipped with **sensors custom designed by team(3 members)** for comfort and usefulness.
 - The developed **talking glove** can convert **American Sign Language (hand gestures)** to **English**.
 - Also developed a **3D model on rhinoceros 6**, and an **interactive application** to make it handy and useful.
 - url: <https://www.youtube.com/watch?v=MjUl2TsOruo>

PUBLICATION

- Research paper under review in **22nd IFAC Symposium on Automatic Control in Aerospace(ACA 2022)**.

SCHOLASTIC ACHIEVEMENTS

- Secured **All India Rank 48** in **GATE 2021**.
- Secured **6752 rank** in IIT-JEE Advance 2015.
- Won 3rd position in **robotics competition** conducted by **Robosapiens India** in 2016.
- Achieved **Certificate of Merit** in **National Interactive Math Olympiad** in 2010.
- Secured **All India Rank 6** in **Talent Search Examination 2011**.

RELEVANT COURSES

M.Tech	VLSI system design, Industrial Automation and Control, Fuzzy set logic and systems and Digital Control.
B.Tech	Analog Electronics, Digital Electronics and Logic Design, IC Applications, Introduction to Microprocessors and Interfacing, Integrated Circuits and Applied Instrumentation, Simulation Tools, Basic Electrical and Electronics Engineering, Computer Programming, Data Structures, Signal and Systems, Network Theory, Control System and Engineering Mathematics.

INDUSTRIAL TRAINING

- **Bharat Heavy Electricals Limited (BHEL) Jhansi** (May'17-Jul'17)
- **Rajiv Gandhi Thermal Power Plant** (May'18-Jul'18)