Nitesh Kumar

Bachelor of Technology
in Computer Science and Engineering
Indian Institute Of Technology, Ropar

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GitHub | Website
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Education

Degree	Institute/Board	CGPA/Percentage	Year
Bachelor of Technology	Indian Institute of Technology, Ropar	6.44 (Till 4th Sem)	2021-2025
Senior Secondary	Central Board of Secondary Education	97%	2021
Secondary	Central Board of Secondary Education	95	2019

Projects

- **Data Encryption** *Aug. 2022 - Nov. 2022*
  Data Structure and Algorithm, Prof. Anil Shukla **Github**
  – Developed a data encryption project in C, utilizing a binary tree data structure for efficient encryption and decryption operations.
  – Implemented encryption algorithms to convert plaintext data into encrypted form using the binary tree structure.
  – Designed and executed decryption algorithms to accurately decrypt encrypted data and retrieve the original plaintext, ensuring data security and confidentiality.

- **RISC-V Simulator** *Jan. 2023 - May 2023*
  Computer Architecture, Prof. Neeraj Goel **Github**
  – Created a 32-bit RISC-V simulator in C++, supporting both single-cycle and pipeline modes for executing machine code.
  – Implemented a simulated memory hierarchy with various cache levels, enabling analysis of performance metrics like CPI, miss rate, and hit rate.
  – Implemented state calculation, memory hierarchy management, and branch prediction algorithms to achieve accurate simulation of the RISC-V architecture.

- **Smash Coaching** *May 2023 - July 2023*
  HTML/CSS, javascript, Node js, Express,MongoDB **Website**
  – Led the development of 'Smash' an interactive JEE/NEET coaching website.
  – Utilized HTML/CSS and JavaScript for frontend development, providing a visually appealing and user-friendly interface.
  – Implemented a secure login/register portal using Node.js, Express, and MongoDB, ensuring authenticated access for students and faculty members.

- **Metro Route Finder** *June 2023 - July 2023*
  Data Structure and Algorithm,C++ **Github**
  – Developed a C++ coded project for metro route finding, focusing on determining the shortest time and distance between two metro stations.
  – Implemented graph data structure to represent the metro network, with stations as vertices and routes as edges, enabling efficient path calculations.
  – Utilized Dijkstra's algorithm and heap data structure to optimize the computation and provide efficient extraction of minimum distances during route finding.

Technical Skills

- **Programming Languages**: C/C++, HTML/CSS, Javascript
- **Web Development**: HTML/CSS, Javascript, Node.js, Express, MongoDB, Three. js, RISC-V

Key courses taken

- **CSE** : Data Structures and Algorithms, Digital Logic Design, Discrete Mathematics, Computer Architecture,Programming Paradigms and Pragmatics
- **Maths**: Calculus, Linear Algebra, Differential Equations, Probability & Statistics
- **Others**: Signal and System, Micro and Macro Economics

Positions of Responsibility

- **Team Lead at Techno-Cultural fest**, Hospitality Team, IIT Ropar *Feb. 2023 - March 2023*

Miscellaneous

- **Jawahar Navodaya Vidyalaya**,Selected Among 1% at district level *2014*
- **UPSC-NDA**,Qualified for SSB Interview *2021*
- **JEE**, Ranked in top 1% in JEE Mains and Advanced *2021*
- **Rann-Neeti'22**, Silver Medalist in IIT Mandi's Sports Fest *2022*
- **Inter IIT**, Quater Finalist in 55th Inter IIT Sports Meet *2022*