

EDUCATION

<b>Illinois Institute of Technology</b> <i>Master of Science in Computer Science, (3.50/4.0)</i>	<b>May 2025</b> <i>Chicago, Illinois</i>
<b>Jaypee Institute of Information Technology</b> <i>Bachelor of Technology in Electronics and Communication Engineering, (8.20/10.0)</i>	<b>June 2022</b> <i>Noida, India</i>
<b>Relevant Coursework</b>	

*Machine Learning, Advanced Database Organisation, Big data Technology, Database Organisation, User-Centered Design for Software Engineering, Software Engineering, Computer Networks, Big Data Technology, Algorithms, Augmented and Virtual Reality, Science of Programming, Software Quality Management*

WORK EXPERIENCE

<b>Pentair</b> <i>Software Development Engineer, Full-Time</i>	<b>July 2022 – July 2023</b> <i>Noida, India</i>
<ul style="list-style-type: none"><li>Managed and enhanced company's key web applications (Admin, Dealer, Provision, CCW), applying the latest IoT technologies, improving React functionality, and conducting detailed peer reviews as part of Research and Development collaborations.</li><li>Designed and developed frontend functionalities in React.js, maintained web applications, and wrote test cases. Acquired expertise in IoT technologies and advanced React concepts; earned AWS certification; adhered to coding best practices; and actively participated in cross-functional peer reviews.</li></ul>	
<b>Nagarro</b> <i>Software Development Trainee, Full-Time</i>	<b>February 2022 – June 2022</b> <i>Gurgaon, India</i>
<ul style="list-style-type: none"><li>Developed frontend and backend features for various projects using HTML, CSS, JavaScript, Asp.Net MVC 6, and Asp.Net WebAPI. Additionally, enhanced proficiency in DOTNET C by implementing functionalities across different projects and proof of concepts (POCs).</li></ul>	
<b>Flaky Fitness</b> <i>UI/UX Designer and Web Developer, Internship</i>	<b>March 2021 – June 2021</b> <i>Delhi, India</i>
<ul style="list-style-type: none"><li>Developed and designed various UI designs for the Flaky Fitness mobile application, built and designed the web application, and collaborated with teams to integrate new technologies.</li><li>Managed Flaky Fitness's social media handles, creating and editing content and videos, and brainstormed features to enhance user interaction with the application.</li></ul>	
<b>MyCaptain</b> <i>Digital Marketing Intern, Internship</i>	<b>May 2020 – June 2020</b> <i>Mumbai, India</i>
<ul style="list-style-type: none"><li>Managed MyCaptain's social media to promote and inform students about various skills and courses, and collaborated with HR to oversee tasks and conduct internship interviews.</li></ul>	

TECHNICAL SKILLS

<b>Languages</b>	: <i>Java, Python, CSharp, C, C++, SQL, Shell Scripting</i>
<b>Web Technologies</b>	: <i>HTML, CSS, JavaScript, React.js</i>
<b>Frameworks</b>	: <i>React.js, React Native, Node.js, .NET, Unity, RESTful APIs, Spring Boot</i>
<b>Developer Tools</b>	: <i>Git, GitHub, Visual Studio Code, Visual Studio, JIRA, Docker, Postman, Figma</i>
<b>Database</b>	: <i>MySQL, PostgreSQL</i>

PROJECTS

<b>HallwAE – Immersive AR Hallway Experience</b>   <i>Unity, Android Studio, CSharp, REST APIs, GitHub</i>	
<ul style="list-style-type: none"><li><b>Graduate Student Researcher – Full Stack Developer</b> (Illinois Institute of Technology): Contributed to the development of HallwAE an Augmented Environment, an AR application for Meta Quest devices designed to support spontaneous virtual interactions in hallway-like spaces.</li><li>Built and integrated core full-stack features using Unity and CSharp, including spatial mapping, avatar interaction, and RESTful API communication.</li><li>Configured and maintained the tech stack across Unity and Android Studio, managing version control and build processes to streamline development workflows.</li><li>Collaborated on performance optimization and user experience testing, enabling smooth, real-time interactions in immersive AR environments.</li><li>Contributed to research on spatial computing and social presence, drawing on architectural theory and HCI literature to inform design decisions.</li><li>Aligned design with architectural and social computing principles to leverage place-based interaction norms.</li></ul>	
<b>InstruGen A.I. - ML Driven Instrumental Music Generation</b>   <i>Python, PyTorch, Librosa, MIDI, MusicGen, Demucs, PYDUB, Transformer Models, Knowledge Distillation</i>	
<ul style="list-style-type: none"><li>Engineered an end-to-end audio pipeline—MP3-to-MIDI conversion with Librosa feature extraction (MFCCs, Mel spectrograms)—to fine-tune a MusicGen transformer model for high-fidelity instrument-specific renditions.</li><li>Applied knowledge distillation to compress MusicGen into a lightweight student model—reducing inference latency by 30% while preserving audio fidelity.</li><li>Developed a React-based UI for audio upload, playback previews and downloading converted instrumental tracks.</li></ul>	
<b>Song Recommendation System with Spark MLlib</b>   <i>PySpark SQL, Apache Spark, Hive, Spark MLlib, H2O AutoML, TensorFlow, AWS SageMaker</i>	
<ul style="list-style-type: none"><li>Leveraged PySpark SQL, Hive, and Spark MLlib's ALS collaborative filtering to preprocess and analyze large-scale user-song interaction datasets, with RDD transformations for alias mapping, automated hyperparameter tuning via H2O AutoML, and evaluation using precision, recall, and F1-score.</li><li>Packaged the optimized model in a Docker container and deployed it on AWS SageMaker with a Flask endpoint, supporting both real-time and batch personalized song recommendations.</li></ul>	
<b>Advanced Database Organisation</b>   <i>lldb, Header files, Makefiles, Linux, Modular programming in C Language, DBMS</i>	
<ul style="list-style-type: none"><li>Co-engineered a scalable database storage architecture in C, optimizing buffer and record management, and implementing efficient B+ tree indexing, which enhanced file operation speed by 30%</li><li>Implemented multiple page replacement strategies (FIFO, CLOCK, LFU, LRU) in buffer management, improving memory efficiency by 25%. Enhanced record management by designing primary key and tombstone features, and extended B+ tree indexing to support diverse data types, increasing data retrieval speed by 20%</li></ul>	

LEADERSHIP/STUDENT ORGANISATIONS

<b>Event Manager and Coordinator Head - IIIT, Noida</b> <i>Led the Western Dance Club and organised major college events, improving campus community engagement.</i>	<b>July 2020 – July 2021</b> <i>Noida, India</i>
<b>Undergraduate Student Association - IIIT, Noida</b> <i>Served as the main contact for admissions, streamlining the application process and enhancing student communication.</i>	<b>Dec 2018 – June 2019</b> <i>Noida, India</i>