Abhishek Bansal

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Github   LinkedIn

Education

Indraprastha Institute of Information Technology, Delhi	CGPA: 8.32/10
B.Tech. (Computer Science and Engineering)	
2022 - present	
Vanasthali Public School, Mayur Vihar, Delhi	Percentage: 93.8%
CBSE, Standard 12, PCM	
2020 - 2021	
Vanasthali Public School, Mayur Vihar, Delhi	Percentage: 92.6%
CBSE, Standard 10	
2018 - 2019	

Skills

Expertise Area:	ReactJS, NextJS, ExpressJS, NodeJS, HTML, CSS, REST APIs, Android Development, Jetpack Compose, UI/UX Design, Machine Learning, Deep Learning, Natural Language Processing, Computer Vision, Data Analysis, Statistical Modeling, Data Visualization, Regression, MySQL, MongoDB, Software Design, Testing, Debugging, Version Control, Object-Oriented Programming, Linux
Programming Languages:	Python, Java, C++, C, Kotlin, JavaScript, TypeScript, HTML, CSS
Tools and Technologies:	Git/GitHub, MySQL Workbench, Matplotlib libraries, Numpy, Pandas, Scikit-learn, Pytorch, Tensorflow, Yolo, Google Colab, VS Code, IntelliJ, CLion, Ubuntu (WSL), PyCharm, NS-3, Wireshark, Figma, Canva
Technical Electives:	Natural Language Processing, Data Structures and Algorithms, Operating Systems, Computer Networks, Machine Learning, Algorithm Design and Analysis, Database Management System, Convex Optimization, Artificial Intelligence, Data Science, Computer Vision, Mobile Computing

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Work Experience

Full-Stack LLM-Powered Conversational AI (Jan, 25 - May, 25)
Advisor: Dr. Anuj Grover
Technology Stack: Python, LangChain, RAG, ChromaDB, Selenium, NextJS
- Engineered and deployed an LLM-powered conversational agent for the university website using Next.js, FastAPI, and LangChain, integrating ChromaDB for fast retrieval
- Orchestrated a Selenium-driven web crawler with graph-based content modeling to fuel context-rich RAG responses

Freelance Web Developer (Sep, 24 - Feb, 25)
Technology Stack: MERN, NextJs, TypeScript, TailwindCSS
- Crafted responsive, SEO-optimized React & Tailwind sites for 3 clients, introducing interactive product showcases and light/dark modes
- Configured domains and Hostinger hosting, lifting client inquiries by up to 20%
- siskaengineering.com • pragatiindustriesindia.com • madhavahealthpharma.com

Teaching Assistantships, IIIT-Delhi (Aug, 24 - May, 25)
- Conducted tutorials and lab sessions for courses including Introduction to Programming and Data Structures & Algorithms
- Graded assignments and exams, and mentored students under the guidance of Dr. Pankaj Jalote and Dr. Ojaswa Sharma

Projects

Indoor Navigation App and Website
Technology Stack: Python, OpenCV, YOLO, MiDaS, Kotlin, React

Team Size – 3
(Jan 25 — Apr 25)
[GitHub Repository](#)

- Engineered a real-time navigation system for visually impaired users, attaining 92% detection accuracy with YOLO and 85% depth estimation using MiDaS
- Optimized Android (Kotlin) and web (React) interfaces to render navigation cues under 150 ms latency

Document Scanning Android App
Technology Stack: Kotlin, Jetpack Compose, C++, Google ML Kit

Team Size – 2
(Jan 25 — Apr 25)
[GitHub Repository](#)

- Authored a native Android scanning solution with 98% OCR accuracy and 90% TTS clarity using Google ML Kit
- Automated edge-detection and enhancement, slashing manual crop time by 75%

Automated Music Genre Classification
Technology Stack: Python, Librosa, Scikit-learn, XGBoost, Random Forest

Team Size – 4
(Aug 24 — Dec 24)
[GitHub Repository](#)

- Devised a 10-genre classifier on GTZAN with 57 Librosa features, achieving 77% accuracy and 82% F1 after tuning
- Enhanced model by applying dimensionality reduction techniques such as PCA and t-SNE to visualize high-dimensional feature space, preserving 95% variance and enabling better understanding of genre clusters

E-Commerce Website (Myntra Clone)
Technology Stack: HTML, CSS, Node.js, MySQL, Python

Team Size – 4
(Feb 24 – May 24)
[GitHub Repository](#)

- Architected a responsive shopping platform with 5 modules (authorization, cart, orders, catalog, payment), boosting mock task success to 88%
- Safeguarded data integrity with transaction controls that eliminated 100% of simulated conflicts

Stick Hero Game
Technology Stack: Java, JavaFX, FXML, Multithreading, JUnit, OOP, Design Patterns

Team Size – 1
(Oct 23 – Nov 23)
[GitHub Repository](#)

- Constructed a JavaFX stick-man arcade game with cherry collection at 60 FPS and under 5 ms input latency
- Fortified code quality with JUnit covering 90% of paths and multithreading for 100 concurrent animations

Mini Operating System
Technology Stack: C, Linux, Git, WSL

Team Size – 2
(Oct 23 – Dec 23)
[GitHub Repository](#)

- Designed and implemented a priority-based CPU scheduler using C, optimizing process management improving system responsiveness under multi-process workloads
- Streamlined shell and ELF loader with 100% lazy-loading success, cutting memory footprint by 30%

Positions of Responsibility

- **Tech Co-Lead, Techspectra** – Led workshops and hackathons for IIIT-D's tech fest, engaging 10,000+ participants; focused on content design and event execution
- **Coordinator, Foosball Self-Growth Program** – Supervised a training program for 30 participants; managed development, peer-led training, and progress tracking

Awards and Achievements

JEE Advanced: Secured All India Rank 7727 in JEE Advanced. **JEE Mains**: 99.53 percentile – All India Rank 4330 in JEE Mains

Interests and Hobbies

Likes to play chess and foosball

Declaration: The above information is accurate and true to the best of available knowledge.
Abhishek Bansal
Date: July 1, 2025