SWARNA PRANEETH CHANDRA

Computer Science | **Indian Institute of Technology (BHU) Varanasi**

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🎓 EDUCATION

Indian Institute of Technology (BHU) Varanasi	2022 – 2026
Bachelor of Technology	*CGPA: 8.06/10*

Narayana Junior College	2022
XII, TSBIE	*Percentage: 96.2%*

New Vision Olympiad School	2020
X, TSBSE	*GPA: 10/10*

🏆 ACHIEVEMENTS & AWARDS

- Secured **All India Rank 7376** in **JEE Advanced 2022**, held by IIT Bombay among **1,60,000** shortlisted candidates.
- Secured **All India Rank 1091** in **TS EAMCET 2022** among **1.7 lac** applicants (UG Entrance test in Telangana).
- Ranked among the **top 60** students in the state-wide two-level **AS Rao** Examination, attended the honorary **workshop**
- Secured **2nd position** in the **ML Forge** event at **Shilp'25** , organized by the **CES , IIT BHU** (April 2025)
- Achieved **Codeforces** max rating: **1563**
- Achieved Worldwide **Rank 87** in **CodeChef** Starters 200 (2025).

💼 WORK EXPERIENCE

SWE Intern, Trumio.Inc (AI & ML) Pvt. Ltd.	May '25 – Jul '25

- Built an **AI Copilot** backend using **Agno/PhiData** and **FastAPI** for multimodal chat, and NL-to-MongoDB analytics with **intelligent model routing** , integrated with a responsive frontend interface.
- Designed **agentic AI** systems with tool/model managers , persistent memory, schema-aware pipelines, secure file handling, and external integrations (**MCP** tools, **Web Search**).
- Got exposure to System architecture, modular APIs, streaming systems, scalable agent orchestration.

⚙ TECHNICAL SKILLS

Programming: C | C++ | Python | JavaScript | Java | LATEX | Bash

Frontend & Backend: ReactJS | NodeJS | TailwindCSS | Next.jss | Django | Springboot | MongoDB | Git | MySQL | Docker

AI & ML: LangChain | LangGraph | PyTorch | TensorFlow | FastAPI | Agno/PhiData | Scikit-Learn | Transformers

👥 POSITIONS OF RESPONSIBILITY

Core Committee Member & Team Mentor	Feb'23 – Present
DFZ (Dance club), IIT BHU	

- Served for 2 years, choreographing and training club members while contributing to strategic planning and overall growth of the Club.
- guided the team to secure 3rd place in Dance Arts at Inter-IIT 7.0, 3rd place in Antaragni'24 and many more achievements.

📑 COURSEWORK

Data Structures & Algorithms	Database Management Systems	Artificial Intelligence & Machine Learning
Software Development	Computer Networks	Compiler Design
Operating Systems	Computer Graphics	Computer Organization

💡 RESEARCH WORK

SHLOKAPROCESSOR ⬡ | **UG Project**	*Jan '25 – Present*

under supervision of Prof. OSL Bhavana (CSE, IIT BHU)

- Developed a **modular NLP pipeline** for **Sanskrit** to address the absence of standard computational tools for the language.
- Designed hybrid rule-based + neural models (**BiLSTM, CNN, seq2seq**) achieving **96.2% F1** in sandhi-splitting and **69.2% F1** in morphological parsing, outperforming prior benchmarks.
- Provided infrastructure for **large-scale digitization** of Sanskrit texts, forming a foundation for semantic and verse-level analysis.

QLVP Routing Algorithm ⬡ | **IoT Lab, CSE Dept**	*Jan '24 – Apr '24*

under supervision of Prof. Prasenjit Chanak (CSE, IIT BHU)

- Developed **QLVP**, a Q-Learning-based routing algorithm for **vehicle-to-vehicle** communication in **IoV**
- Optimized routing decisions using **Q-Learning** and **ARIMA** for accurate trajectory prediction, reducing packet loss and routing failures Outperforming three SOTA algorithms.

💡 KEY PROJECTS

DBMS Project ⬡ | **Spring Boot • React • MySQL**	*Aug '24 – Nov '24*

- Developed a full-stack **hospital management system** with a normalized relational database schema. Implemented a Spring Boot **Maven JDBC** backend exposing **REST APIs**, secured with **JWT** & role-based access, with a **React + Tailwind** frontend.
- made ensuring **DBMS Principles** like referential integrity, parameterized queries, transaction management for data consistency etc.

NOVA ⬡ | **MERN Stack**	*May '24 – July '24*

- Built an interactive **IMDB-style Movie Information** web app that also hosts **Reddit-style** cinema related discussions using MERN stack.
- **Functionality:** Personalized Feed, Posts, Comments, Profile Customization, Pagination, JWT Authentication using cookies.

RIS-Assisted Sensor Localization ⬡	*Aug '24 – Nov '24*

- Applied **MLE** and **Bayesian learning** frameworks with Bayesian achieving **0.25 m** average error at 20% higher computation.
- Demonstrated practical use for low-cost, energy-efficient IoT positioning, where stochastic dual-RIS scheduling improved accuracy by 4̄ dB and robustness to geometry variations.

TheDiscourse ⬡ | **Django Project**	*Jan '25 – Apr '25*

- Built a Python-based Debate App to facilitate open discussions on social issues. Created a dynamic web application with real-time chat, Convenient Navigation, profile customization
- Features: Debate Rooms, Real-time Updates, Authentication, Search, Profile Customization, CRUD functionality