Rudraksh Chugh

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Education

Thapar Institute of Engineering & Technology — Patiala,Punjab
Bachelor of Engineering in Computer Science and Engineering | CGPA: 8.60 — *Aug 2024 - June 2028*

The Aryan School — Hisar,Haryana
Class XII | CBSE: 82.8% — *Aug 2021 – March 2023*

Experience

Vue360Infra — Remote
Technical and Marketing Intern — *January 2026 – Present*

- Built the client-facing website for Vue360Infra (MeitY-funded, Thapar-incubated spatial tech startup), and contributed to the 360° photospheric rendering pipeline for real-world spaces including campus facilities, delivering immersive virtual walkthroughs to prospective clients.

Research Papers

- WellBeat: A Circadian-Aware Transformer for Stress Detection from Ambulatory ECG -**Rudraksh Chugh**, Akshat, Manav Malhotra*, Vinay Arora - Submitted
- Motion to Malignancy: A Framework for Understanding Brain Tumors Through Cine MRI -Ishika Walia, Akshat, **Rudraksh Chugh***, Vinay Arora, Rambaksh Sharma - Submitted
- Fundus-based Ischaemic Heart Disease Prediction Using Transformer-based Deep Feature Extraction - Akshat, Ishika Walia, **Rudraksh Chugh**, Aarush Aggarwal, Vinay Arora* - Submitted

Projects

ADAPTIVE CHECKOUT RISK ENGINE | LightGBM, FastAPI, SHAP, NetworkX, Scikit-Learn — June 2026

- Designed a real-time fraud detection framework that combines ML risk prediction, behavioral trust scoring, customer value assessment, and graph-based fraud intelligence to route transactions as Approve, OTP, or Block.
- Built a cost-aware LightGBM pipeline on the IEEE-CIS Fraud Detection dataset, achieving 0.943 ROC-AUC and 0.704 PR-AUC while optimizing fraud loss, false-positive declines, and verification overhead through a custom business cost function.

BRAIN TUMOR SEGMENTATION USING U-NET | TensorFlow, Keras, OpenCV, NumPy — May 2026

- Built a U-Net based semantic segmentation pipeline for brain MRI scans, including image-mask preprocessing, model training, checkpoint-based inference, and prediction visualization.
- Implemented Dice score evaluation and a Dice + weighted binary cross-entropy loss to address tumor-background class imbalance, achieving a reported test Dice score of 0.815.

Skills

Languages: C, C++, Python, JavaScript, HTML, CSS
ML & Deep Learning: TensorFlow, Keras, OpenCV, NumPy, Pandas, Scikit-Learn, MediaPipe
Web & Backend: React.js, FastAPI, Flask, Node.js, WebSockets
Databases: PostgreSQL, SQLite,
Visualization & Tools: Matplotlib, Seaborn, Plotly, Jupyter Notebook, Git, GitHub, VS Code, Figma
Core Concepts: Data Structures and Algorithms, OOP, Operating Systems, DBMS, Computer Networks, Machine Learning, Deep Learning

Achievements

- Awarded Best First Year Team and ranked Top 15 out of 200+ teams at Hackspire 2025, an offline hackathon organized by ACM and MLSC at Thapar University (May 2025).
- Solved 500+ Data Structures & Algorithms problems on LeetCode