

# Mrittick Deb

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## SKILLS

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- **Languages:** C++, JavaScript, C, Python, Dart, TypeScript
- **Web Frameworks & Technologies:** React.js, Node.js, Express.js, Next.js, Tailwind CSS, Socket.io
- **ML Frameworks & Libraries:** Scikit-Learn, XGBoost, SMOTE, SHAP, TensorFlow, PyTorch, Pandas, NumPy
- **Tools/Platforms:** VSCode, MySQL, MongoDB, Postgres, Power BI, Postman, Jupyter Notebook, Firebase, Docker, Git
- **Soft Skills:** Leadership, Ownership, Strategic Problem-Solving, Decision-Making, Team Coordination

## EXPERIENCE

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- **Aossie – Open Source Contribution** Since Nov'25  
*Open-Source Contributor*
  - Contributed to the **Resonate** open-source project by building **5+ Flutter UI** components, resolving **10+ UI/functional issues**, and collaborating with the core team via **GitHub pull requests**.
  - **Tech Stack:** Flutter, Dart, Git, GitHub
- **Summer Training Program** Jun' 25 – Jul' 25  
*Training Intern*
  - Built 2 end-to-end ML and full-stack applications during summer training, processing **15,000+ data records**, improving model performance by **25% over baseline**, and deploying scalable web solutions supporting real-time predictions.
  - **Tech Stack:** Python, XGBoost, Streamlit, React.js, Node.js, Express.js, MongoDB

## PROJECTS

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- **AI-Powered Employee Leave Management System** | [GitHub](#) | [Demo:](#) Feb' 26
  - **Engineered** a full-stack leave management platform using React.js, Node.js, Express.js, and MongoDB, **enabling role-based workflows, real-time notifications, and JWT-based authentication**.
  - Integrated **Cloudinary** for secure cloud-based asset storage and optimized media delivery, and leveraged **Brevo API** for OTP verification and automated transactional email workflows supporting approvals and system alerts.
  - **Tech Stack:** React.js, Node.js, Express.js, MongoDB, Socket.io, JWT, Cloudinary, Brevo API
- **Recall-Optimized Student Depression Risk Prediction System** | [GitHub](#) | [Demo:](#) Dec' 25
  - Developed a **recall-focused ML screening system** using **XGBoost ensemble models** to identify students at risk of depression, prioritizing **false-negative reduction** for early risk detection.
  - Trained on **27,901 records** using **SMOTE, SHAP**, and **gender-based fairness evaluation** for robust risk stratification.
  - **Tech Stack:** Python, Scikit-Learn, XGBoost, SHAP, Pandas, NumPy
- **Autoencoder-Based Anomaly Detection Pipeline** | [GitHub:](#) Jan' 25
  - Designed an **unsupervised anomaly detection pipeline** using **deep autoencoders**, leveraging **reconstruction error-based scoring** to identify rare and previously unseen abnormal patterns in **unlabeled data**.
  - Calibrated **anomaly thresholds** and benchmarked against **baseline methods** to reduce **false positives**.
  - **Tech Stack:** Python, TensorFlow/Keras, NumPy, Pandas, Scikit-Learn

## CERTIFICATIONS

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- Cloud Infrastructure 2025 Certified AI Foundations Associate | ORACLE | [CERTIFICATE](#) Oct' 25
- Cloud Computing | NPTEL IIT KHARAGPUR | [CERTIFICATE](#) May' 25
- Computer Architecture | PRINCETON UNIVERSITY | [CERTIFICATE](#) Oct' 24
- Computer Communications Specialization | UNIVERSITY OF COLORADO | [CERTIFICATE](#) Oct' 24

## ACHIEVEMENTS

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- **Competitive Programming – Global Top 25%:** Ranked among the top 25% globally in LeetCode Weekly and Biweekly Contests.
- **Top 7% on TryHackMe:** Ranked among 4M+ global users with hands-on exposure to security fundamentals.
- **One among Dean's top 11% students at University:** For good academic performance and extra-curricular activities at university.

## EDUCATION

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- **Lovely Professional University** Punjab, India  
*Bachelor of Technology - Computer Science and Engineering; CGPA: 8.05* Since August 2023
- **Caesar School** Malbazar, West Bengal  
*Intermediate; Percentage: 72.5%* April 2022 - March 2023
- **Don Bosco School** Oodlabari, West Bengal  
*Matriculation; Percentage: 92.4%* April 2020 - March 2021