

Ninad Ekbote

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EDUCATION

University of California, San Diego

San Diego, CA

Master of Science, Electrical and Computer Engineering (Machine learning track) | CGPA:

Sep 2023 - Jun 2025

- **Relevant coursework:** Statistical NLP, Statistical Learning, Introduction to Biomedical NLP

Vishwakarma Institute of Technology

Pune, India

Bachelor of Technology, Electronics and Telecommunication ; CGPA 3.9

Aug 2018 - May 2022

- **Relevant coursework:** C, Python, NLP, Deep learning, Probability and Statistics, NLP

WORK EXPERIENCE

Machine Learning Researcher | [UC San Diego's Shiley Eye Institute](#) | San Diego, CA

Mar 2024 - Dec 2024

- Trained **CNN** models to detect early-stage Glaucoma achieving an **accuracy of 97%**. Optimized **Hyper-Parameters** by changing learning rate, batch size, activation functions, **L1/L2 regularization** constant, experimenting with different filter and kernel sizes etc. Tackling the issue of **class-imbalance** using performance metrics such as F1 score, precision, recall etc.

Research Assistant | [UC San Diego Pixie's Lab](#) | San Diego, CA

Sep 2024 -Present

- Developed **Multi-Modal Large Language Models (LLMs)** in **team collaboration** to generate detailed descriptions of complex clinical drug interactions, enhancing the understanding of potential side effects.

Software Engineer Intern | [Fluidra, North America](#) | Carlsbad, CA

Jun 2024 - Sept 2024

- Developed a Weather Information System with a **response time of ~500ms** by using **AWS tools such as Lambda, DynamoDB, SQS, CloudWatch, CloudBridge**.
- Designed a **Weather Alert System**, relaying weather alerts information of a specific area, making a system which can be scaled up to 192 countries by using **AWS services**.

Software Engineer | [Persistent Systems](#) | Pune, India

Jun 2022- Jul 2023

- Optimized account creation process on a Hospital(client) website, **fixing the latency issues** in the data storage pipeline and **reducing site response time by ~3 seconds**. Used Salesforce native Tools such as **Apex(Java), SOSL/SOQL(SQL)**.
- Spearheaded the creation of the Hospital Utilities Reports and Dashboards Interface (HURDI), giving end-users quick access to information on doctor types, services, and specialties offered by the hospital.
- Implemented an email **notification system** for patients, doctors, and staff using **Salesforce Logic Flow Builder**, automating timely updates and improving communication across the hospital.

Machine Learning Intern | [Anubhooti Solutions](#) | Pune, India

Jun 2020 – Dec 2020

- Pioneered a speaker recognition system using **Neural Networks** and using FFTs of speakers' audio notes as Data and achieving a **95% accuracy**.

PROJECTS & PUBLICATIONS

LinguaBridge: English to Russian Translator using Transformers | [Git Repo](#)

Jun 2024 - Present

- Designed and implemented a **Transformer model** from **scratch**, inspired by the concepts in the "Attention is All You Need" paper. Leveraged **Attention Mechanisms** to capture word semantics within sentences. Created and analyzed attention maps to visualize relationships between words.

Conversion of satellite images to google maps using GANS | [Publication Link](#)

Aug 2021 - Dec 2021

- Collaborated in the development of a new **CycleGAN** model that improved performance by 15% over the original version. Mitigated challenges like class imbalance, Mode Collapse etc. Performed **A/B testing** using Z-testing to validate the superiority of the new CycleGan model.
- **Published and authored** a research paper in SpringerLink and presented the research findings in **Innovations in Computational Intelligence and Computer Vision conference**.

TECHNICAL SKILLS:

Machine Learning: Regression, Classification, Decision Tree, Random Forest, XGBoost Neural Networks, CNN, RNN, LSTM, GANs, LLMs, Transformers. **Programming:** Python, C++, Java, SQL, PyTorch, Scikit, Sklearn, Matlab, R, Numpy, Pandas, GitHub, HTML-CSS-JavaScript. **Cloud stack:** AWS(Lambda, Dynamodb, CDK, API Gateway). **Orchestration:** Kuberflow