MINAKSHEE NARAYANKAR

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EDUCATION

University of Mumbai | Vidyalankar Institute of Technology | Mumbai, India — **Jul 2018 – Jun 2022**
Bachelor of Engineering in **Computer** *Engineering* — *CGPA :* **9.78/10**

Ramniranjan Jhunjhunwala College | Mumbai, India — Jul. 2016 – Mar 2018
Junior College — *Grade:* **83.03%**

Shivaji Vidyalaya | Mumbai, India — May. 2015 – May 2016
Secondary School — *Grade:* **96.40%**

PROFESSIONAL EXPERIENCE

Tata Consultancy Services — **Mumbai, India**
AI ML Engineer — *Jul 2022 – Present*

- Developed a customer support chatbot deploying GPT models via **Azure OpenAI Service** for a European car insurance company. Built a React-based frontend with reusable components and deployed it on **Azure Storage Account**.
- Implemented AI guardrails using Azure **Content Safety** Service to prevent harmful content and to enforce permissible ranges for OpenAI parameters for user groups via Azure API Management. Designed GitLab **CI/CD** pipelines for guardrail policy updates and stored group-level policies in Azure Storage Account.
- Developed an **incident forecasting** system analyzing **3** years of historical incidents data. Employed efficient outlier removal techniques and tested 6 time-series models for a 5-year forecast, with **Neural Prophet** giving the least mean square error.
- Automated provident fund document submission for TCS employees by extracting data from scanned images to Excel. Implemented table structure recognizer using **detection transformers** and **OCR.**
- Pioneered the development of a **unique** NLP **parser** for text-to-Indian **Sign Language** conversion. Conducted human pose estimation using posenet and mediapipe algorithms. Included 42 human hand keypoints, improved efficiency, proposed a refined weight formula, and added video compatibility in **Tensorflow** Pose animator.
- Provided technical assistance to 10+ TCS accounts and research teams to build AI ML solutions for customers.

Tata Consultancy Services — **Mumbai, India**
AI ML Developer Intern — *Jan 2022 – Apr 2022*

- Created an application capable of generating **3D** human **models** with intricate details from 2D input videos.
- Conducted advanced image preprocessing and employed **four** 3D human digitization algorithms, out of which **PIFuHD** performed the best. Enhanced human color rendering and developed a **position discrimination** classification model.

Vidyalankar Institute of Technology — **Mumbai, India**
NLP Intern — *May 2020 – Jul 2020*

- Developed 'VBot' to serve as the official admission chatbot for VIT's website to assist prospective students.
- Modeled DialogFlow conversational agent by incorporating **200+** distinct admission queries. Led dynamic expansion of chatbot's capabilities by complementing text outputs with images, videos and hyperlinks.

PROJECTS AND RESEARCH PUBLICATIONS

RAG Techniques Playground | Github | Python, langchain, FastAPI, React — **2025**

- Created a platform for users to explore, analyze, and compare different RAG techniques (Simple RAG, Query Transformation RAG, Re-Ranking RAG) using langchain and React.
- Built query transformations- Query Rewriting, Step-back Prompting, and Sub-query Decomposition to improve retrieval.

Sentiment Analysis for Mental Health Awareness | *Final Year Project* | *Python, NLP, CV, Django, PostgreSQL* — **2021**

- Designed an application for regular monitoring of people's mental state during COVID-19. Built sentiment analysis and facial emotion recognition models (**79%** accurate), utilizing BiLSTM and **MobileNet** neural networks. IEEE, INDICON
- Conducted extensive research on sentiment analysis algorithms, comparing them across 4 metrics. IEEE, ICAST
- Added features: real-time tweet analysis, multilingual input, and website translation.
- Researched Marathi POS tagging, Bi-LSTM outperformed 4 other methods among 13 taggers. IEEE, ICIRCA

Gesture-Controlled Gaming using OpenCV-Python | Github | Python, Computer Vision, PyAutoGUI, Git — **2021**

- Developed a face and hand detection using Haarcascade files and controlled a car race game using PyAutoGUI.
- Led a seminar for **200+** junior peers, covering this project with concepts of computer vision and object detection.

TECHNICAL SKILLS

Software Development: Python, OOPS, Django, Flask, PostgreSQL, c++, HTML, CSS.
Artificial Intelligence: Generative AI, Natural Language Processing, Computer Vision, Machine Learning, Deep Learning.
Developer Tools: HuggingFace, Google Colaboratory, Visual Studio Code, Jupyter Notebook, Pycharm, Github.
Cloud Services: Azure, AWS

ACHIEVEMENTS

- Received **Customer Appreciation** and team awards for developing a time-series application and demonstrating leadership.
- Cleared **AWS Certified Cloud Practitioner** exam with a score of 804/1000.
- Led a team of 4 and secured **first prize** in the Vhackathon competition with a perfect score of 10/10.
- Secured first place in 2 semesters and highest marks in **3** subjects of Computer Engineering and first place in SSC board exam
- **Alumni Guest Lecture**: Delivered a guest lecture at VIT on the Industry Applications of **Generative AI**.