# RITIKA MANGLA

303, Valentina, Thane, Maharashtra, 400601 | ritikamangla.rm@gmail.com | +91 9769296966

# EDUCATION

**Veermata Jijabai Technological Institute (VJTI), Mumbai, India Expected: May 2022**

Candidate for Bachelor of Technology in Information Technology **(CGPA: 9.82/10)**

Secured **First Rank** in a class of 168 students and awarded as the **gold medalist** in 2019, 2020.

# PROFESSIONAL EXPERIENCE

**Goldman Sachs, Bangalore, India |** *Summer Analyst*  **Jun 2021 – Jul 2021**

* Automated the manual process of event management by creating a common platform with a central repository.
* Designed an event dashboard using ReactJS and SpringBoot to query events from DB2 database to analyze its impact.

**Yozu, IIT Bombay, Mumbai, India |** *Artificial Intelligence Intern* **Dec 2020– Jan 2021**

* Developed an AI-based conversational bot using state machine approach with a reduced latency of 13%.
* Devised an LSTM-based Question Matching algorithm for answering mid-conversation user queries.

**TechnoPurple Tracking, Mumbai, India |** *Machine Learning Intern* **May 2020– Jul 2020**

* Implemented Laplacian filter to separate dark and blur images to examine site cleanliness for Emrill Services LLC(Dubai).
* Engineered a template matching using OpenCV & OCR-based algorithm to determine success of a rally of Bhartiya Janta Party (the current ruling party of India), thereby resulting in reduction of false positive and false negative counts by 67%.

# ACADEMIC PROJECTS

**Bearing Fault Analysis | Python, Machine Learning**

* Developed a novel method using dynamic regression model to estimate the remaining useful life of a bearing.
* Achieved better prognostic performance with 98.2% accuracy as compared to SOTA techniques such as Kalman filter.

**Cleangenix | Neo4J, PostgreSQL, NodeJS**

* Devised a solution to improve city sanitation under Solid Waste Management Department using Neo4J and PostGreSQL.
* Developed an algorithm to identify trash from geotagged images using a Mask R-CNN model.

**Startup Quest | Python, Flask**

* Created a social media bot which indexes 2000+ potential startup ideas in a database and a CRM dashboard to display it.
* Developed a news feed scraper to trace activities of the projects by web scraping data using Beautiful Soup.
* **Winner** of HackIT 2.0 amongst 300+ teams– Hackathon organized by KJSCE, India.

**Unsupervised Speech Summarization | Python, Machine Learning**

* Performed text summarization by clustering sentence embeddings trained to embed paraphrases together using K-Means.
* Improved the accuracy by using a Skip-Thoughts (GRU-RNN) model to preserve sequence of words in a sentence.

# PUBLICATIONS

**Twitter Bot Detection and their Influence in Hashtag Manipulation**

* Introduced an innovative approach of a ‘bot-score’ using Random Forest classifier to detect bots in Twitter.
* Presented the paper in 2020 IEEE 17th Indian Council International Conference (INDICON), 2020, pp. 1-, DOI: 10.1109/INDICON49873.2020.9342152.

**Community Detection and Impact of Bots on Sentiment Polarity of Twitter Networks**

* Generated a directed network of Twitter users, detected their communities using Louvain method and analyzed its influence in a community using eigen centrality along with its effect on the overall network’s sentiment polarity.
* Presented the paper in 2021 IEEE ASIANCON, 2021, pp. 1-6, **Accepted.**

**AI Based Nose for Trace of Churn in Assessment of Captive Customers**

* Conducted a comparative study of 7 ML algorithms tested using statistical evaluative measures (precision, accuracy, Kappa constant) on the popular telecom database, having the best classifier as XG Boost: accuracy-82%, precision: 0.8.
* Presented the paper in Turkish Online Journal of Qualitative Inquiry (TOJQI) Volume 12, Issue 6, June 2021: 622-628.

# SKILLS

**Language and frameworks:** C++, Python, HTML/CSS, JavaScript, ReactJS, NodeJS, Flask, SQL, Spring Boot, MPI

**Machine Learning libraries:** Pandas, NumPy, Matplotlib, OpenCV, Scikit Learn, Keras, TensorFlow

# EXTRA CURRICULAR ACTIVITIES

* Co-Founded an e-learning platform ‘EduBubble’ with an aim to help students crack their coding tests and interviews and reached 230+ followers, mentored 1000+ students over the course of 6 months.
* Co-Founded an initiative under the banner of ‘Aaroma’ to provide food coupons to 2000+ needy people which were accepted at restaurants tied up us., raised 40K+ INR from 1000+ active contributors.
* Headed the Public Relations Committee of Pratibimb as the PR Head of Veermata Jijabai Technological Institute(VJTI), Mumbai -achieved an overall footfall over 25,000 across 3 days of the fest, surpassing previous records of 32 years.