

# JORAWAR SINGH

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## PROFESSIONAL EXPERIENCE

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**SEISEL.AI ( RGENAI TECHNOLOGY PVT LTD ) (PRODUCT BASED).**

**Senior Machine Learning Engineer ( Founding Engineer)**

**Rajasthan,India**

**May 2023 - Present**

Led a six-person team at Seisel.ai (RgenAI Technology Private Limited), serving multiple clients and generating over **60 lakhs** in revenue within six months. Secured **50 lakhs** in funding from iCreate and an additional **1 crore** from investors.

Contributed to the company's growth through extensive research and development in GAN models

### **REALISTIC FACE VISUALLY DUBBING CONDITIONED ON AUDIO:**

- created the visual dubbing model, DINET, conditioned on audio.
- Successfully optimized the model by converting it to ONNX and performing quantization, resulting in a 2.4x decrease in inference time.
- Further converted the model to TensorRT, achieving a 5.5x performance enhancement.

### **Pipeline for Productionizing PyTorch Model:**

- Created a data loader technique to maximize GPU utilization to consistently greater than 90%, achieving 100% utilization.
- Boosted inference time, reducing it from 1.30 minutes to 10 seconds, resulting in considerable cost savings.

### **Leadership and Team Collaboration:**

- Led a six-person vision team.
- Completed multiple client engagements successfully.
- Improved model performance and made significant strides in the vision pipeline.

**INDIVIDUAL LEARNING LIMITED ( EMBIBE ) (PRODUCT BASED)**

**Data scientist**

**Bengaluru,India**

**JUNE 2022 - march 2023**

Enhanced Embibe's student doubt resolution system by integrating machine learning algorithms; delivered a 21% boost in resolution accuracy post-acquisition by Reliance.

### **Diagram Detection:**

- Platform aimed at solving students' doubts.
- Users can upload doubts in the form of images, which are sent to a search pipeline divided into "Text search" and "Image search."
- Developed a pipeline to efficiently detect diagrams in images for relevant question searches in the image database.
- Increased the accuracy of doubt resolution by 21%.

### **Multiple Question Detection:**

- Solves the issue of detecting multiple questions in user-uploaded images.
- Tested and fine-tuned various NLP, vision models, and multi-models to address this problem efficiently.
- Observed an increase in user feedback for doubt resolution, from 2.3 to 3.5 out of 5 across doubt with multiple questions.

### **Rotation Correction:**

- Users can upload images rotated by some angle, which degrades OCR performance.

- Built a solution to correct the angle of rotation.
- Trained, tested, and deployed the model with ONNX conversion.
- Increased the accuracy of OCR by 30%

### Encoder Models Benchmarking:

- Developed a pipeline using PyTorch to benchmark various encoder models for image search functionality on Embibe's website.
- Objective: Enhance search relevance by identifying the best latent representations of images, ensuring the most relevant questions are displayed.
- Implemented benchmarking metrics including top-K accuracy, rank accuracy, recall, and coverage.
- Evaluated models across a large database of images (lakhs of images) to assess performance under varying conditions.
- Aimed to optimize search algorithms to improve user experience and engagement on the platform.

**TATRAS DATA SERVICES PVT LTD (SERVICED BASED)**

**Delhi, India**

**Data scientist**

**june 2019 - june 2022**

In Tatras, I worked with multiple clients, gaining exposure to NLP and machine learning classification techniques. I worked in a team of 16 people following Agile methodology, encompassing roles in DevOps, Data Engineering, and QA Testing. This experience provided insights into professional project management, various tools, and security protocols.

### GoodUnited

- **Objective:** Help nonprofits increase Facebook fundraiser donations, emails, and retention effortlessly.
- **Managed Service:** Allows nonprofits to leverage Facebook Fundraisers without increasing staff workload.
- **Propensity Models:**
  - **Propensity to Fundraise:** Predicts the likelihood of a person to initiate a fundraiser based on past activity.
  - **Propensity to Re-engage:** Predicts the likelihood of participation in future events based on past engagement.
  - **Increased revenue by 17%.**

### Virtual Director

- **Objective:** Enhance investment readiness for early-stage businesses seeking follow-on funding.
- **Lead Churn Prediction:** Models predict when leads are likely to lose interest or disengage.
- **Conversation Sentiment Analysis:** Determines if conversations among employees indicate toxicity or positivity.

### Whatz2eat

- **Objective:** Provide personalized recipe recommendations based on user-provided ingredients.
- **Recommender Systems:**
  - **Content-Based:** Recommends recipes based on ingredient similarity and user preferences.
  - **Collaborative Filtering:** Suggests recipes based on preferences of similar users.
- **Deployment:** Models and APIs deployed on AWS EC2, with APIs built using Flask for scalability and accessibility
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## EDUCATION

**INDIAN INSTITUTE OF TECHNOLOGY PATNA.**

***Mtech In Artificial Intelligence & Data Science Engineering***

**Patna, India**

**JULY 2024 - present**

**PUNJABI UNIVERSITY**

***Btech In Computer Science Engineering***

**Patiala, Punjab, India**

**2015 - 2019**

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**ADDITIONAL INFORMATION**

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- Technical Skills: Python, Scikit-learn, TensorFlow, Keras, PyTorch, XGBoost, NumPy, Pandas, SciPy, Seaborn, Gensim, Transformers, SpaCy, NLTK, CoreNLP, OpenAI, MySQL, PostgreSQL, MongoDB, Flask, FastAPI, Celery, NetworkX, OpenCV, Git, Docker, Kubernetes, TensorFlow Serving, AWS, GCP, Microsoft Azure, Serverless, ElasticDB, Time Series Forecasting.
- Languages: Fluent in Hindi (native), English
- Certifications: Applied Machine Learning Online Course **by** appliedAI
- Awards: Speaker at Hackathon 1.0 **by** rajasthan police cyber crime awareness mission.
- Awards: Employee of month at Embibe
- Awards: 2 Times Employee of month at Tatra
- Awards: Shoutout by CEO of Seisei.ai on linkedin