AAKASH SINGH

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SUMMARY

Results-oriented AI/NLP engineer (2.5 years) in prototyping & deploying intelligent solutions for global platforms, delivering high-impact improvements in performance, scalability, and user experience.

RELEVANT WORK EXPERIENCE

- **Software Engineer (Applied AI/NLP)**, *Marketstar, Bangalore*   *May 2022- December 2024*
  - **Sales Training Platform**: Built and deployed modules(speech recognition + transformer-based language processing) cutting onboarding time by **18%** and improving sales conversion rates by **11%**.
  - **RAG Pipeline**: Implemented retrieval-augmented generation pipeline(Llama-Index + vector DB) for sales call simulations that cut off-topic outputs by 40%, handling 50,000+ global user sessions.
  - **Prompt Optimization Pipeline**: Engineered reinforcement/zero-/few-shot learning techniques with automated test generation and GRAD-SUM calibration, achieving **98**% reliability.
  - **Evaluations**: Developed a scoring model using ROUGE, BERTScore, and contextual metrics, raising dialogue coherence by **20**% through iterative tuning.
  - **Similarity Ranking**: Employed contrastive learning and BERT embeddings to assess semantic pitch alignment(GPT-based) to generate feedback & improve user pitch effectiveness by **40**%
  - **Topic Modelling**: Deployed a DistilBERT + sliding window system, cutting evaluation time by 60% (4 min to 1.5 min) for **100**K conversations.
  - *Implemented state-of-the-art research in 2023 by automating training and saving 625+ man hours.*
- **Educational Content Manager** *Unacademy, Bangalore*   *June 2021- Feb 2022*
  - **Content Strategy:** Spearheaded content development for the K-12 category, achieving **20**M+ watch hours and engaging **1.2**M users through data-driven course expansion (+**23**% revenue growth).
  - **User Analytics:** Analyzed learning behavior and led SEO initiatives, driving a **60**% engagement uptick. Leveraged sentiment analysis (Python, NLTK) to reduce customer churn by **46**%.

EDUCATION

- **Indian Institute of Technology Bombay,** *Mumbai, India*   *March 2021*
B.Tech. in Metallurgical Engineering & Material Science

- **Lilavatibai Podar High School,** *Mumbai*   *May 2013*
Secured **90** percentile in Class XII: Maths: 95/100, Computer Science 92/100

RELATED COURSEWORK

- **Artificial Intelligence and Machine Learning Coursework, IIT Hyderabad**   *May - June 2019*
Probability, Linear Algebra, Machine Learning, Sequence Models and Applications

ACADEMIC PROJECTS

- **Sign Language Transcription using Deep Learning and Computer Vision**   *May - June 2019*
Built a real-time gesture recognition system using transfer learning (CNNs: VGG-19, Inception), achieving 99.95% accuracy on 80k+ images.
- **Weld Quality Assessment Research - Machine Learning**   *Aug - Dec 2019*
Investigated non-invasive welding techniques; applied decision trees to correlate arc sound with weld-quality (~80% accuracy).

TECHNICAL SKILLS

- Languages: Python, Java, Node.Js, SQL
- AI/ML: TensorFlow, PyTorch, Scikit-Learn, Hugging Face, OpenAI, Llama-index, Langchain, Promptfoo, DSPy, Gemini, Anthropic
- Cloud & Tools: GCP, Docker, Git, CI/CD, Agile, Scrum
- Databases: MySQL, PostgreSQL, Vector Databases

AWARDS AND RECOGNITION

- Gold medal and Certificate for outstanding performance in the cohort, IIT Hyderabad   *2019*
- Won a Gold Medal in the Institute Football League, IIT Bombay, India   *2019*
- Best Photo Story Award at IIT Bombay, Mood Indigo   *2016, 2017*

EXTRA-CURRICULAR

Educator & Mentor *https://www.youtube.com/@aakash.singh.11*   *Jan 2015 - Present*
- Created **100**+ AI/CS video tutorials (**65**M+ views, **70**k+ subscribers), simplifying advanced concepts.
- Launched a multilingual RAG-based chatbot (GPT-4o, GCP) handling **2,000**+ weekly student queries.
- Managed a **7,000**-member Telegram group for Q&A and peer support.
- Led educational workshops and tutoring sessions at various schools in Mumbai.

Entrepreneurship - IIT Bombay Incubation   *Jan 2019 - Jan 2021*
- Secured INR **50,000** pre-seed sponsorship for an AI-driven booking platform; led prototyping, stakeholder interviews, and MVP testing.