# HRITVIK GUPTA

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## EDUCATION

**University Of California, Riverside** — Riverside, CA
*Master of Science Computer Engineering* — *Sep 2022 - Dec 2023*
*Coursework: Compiler, AI, Computer Architecture, DBMS, Distributed Computing, Big Data, cybersecurity, GPU, Data mining.*

**Geetanjali Institute Of Technical Studies** — Udaipur, India
*Bachelor of Technology Computer Science & Engineering* | GPA: 9.25/10 — *Aug 2018 - Sep 2022*
*Coursework: Data Structures, AI, Distributed Systems, Mathematics, Statistics, Software engineering, Cloud Computing, Databases.*

## SKILLS

**Languages:** Python, C++, Java, JavaScript, Typescript, HTML5, CSS3, Kotlin, SQL, C#, PHP, R.
**Frameworks:** Tensorflow, PyTorch, React.js, Angular, Vue, jQuery, Cuda, Node.js, MongoDB, GCP.
**Technologies:** Git, AWS S3, Sagemaker, Machine learning, Deep learning, NLP, computer vision, Linux, Agile.
**Data Skills:** Numpy, Pandas, NLTK, Matplotlib, Seaborn, Scikit-Learn, Tableau, Spark, Matlab, Probability Theory.

## WORK EXPERIENCE

**Gradute Research Assistant** — Sep 2023 - Dec 2023
University of California, Riverside — *Riverside, CA*
- Built AI-based social media chatbots for real-time customer engagement, achieving 45% faster response time.
- Conducted LLM research with Transformer algorithms, improving text coherence, achieving 30% enhanced accuracy.
- Streamlined deployment of Transformer models on AWS with Docker, enhancing resource efficiency by 20%.

**Research Intern** — March 2021 - May 2022
Indian Institute Of Technology Roorkee — *Roorke, India*
- Led AI research in frontal cognition, enhancing system efficiency by 75% with advanced EEG and NLP.
- Designed signal processing worflows for EEG data, reducing errors by 30% focusing on data quality.
- Focused on optimizing TensorFlow frameworks for LLM, incorporating probability and optimization algorithms.
- Collaborate with 4 PhD scholars, co-authoring a publication featured in an IEEE Journal, leading to 50+ citations.

## PROJECTS

**End-to-End Machine Learning Application on AWS and Digital Ocean |** *link to project* — Jan 2024
- Designed pneumonia detection model with ResNet and computer vision, achieving 95% accuracy on given dataset.
- Employed AWS SageMaker, S3, Lambda, and API Gateway for streamlined ML operations and model deployment.
- Developed Next.js web app with Node.js, Express, MongoDB on Digital Ocean, integrated AWS endpoints.

**Flu Trend Analysis via PySpark and GeoPandas |** *link to project* — Jan 2024
- Built a user-friendly web interface powered by Tableau, enabling intuitive exploration and analysis of flu trends.
- Scaled flu trend analysis by 80% data granularity with PySpark GeoPandas, pre-processed on Apache Hadoop.
- Leveraged AWS S3-stored flu data to train an ARIMA model for California, generating informative heatmaps.

**Hybrid Text Summarization Using LDA and T5 |** *link to project* — May 2023
- Enhanced frameworks for text summarization, integrating LDA and T5 to improve ROUGE scores by 75%.
- Implemented attention mechanism with custom callbacks and Normalization, decreasing loss per epochs by 40%.
- Utilized LDA modeling and sentence weighting to further enhance the system's computational performance.

**Ensembling Elmo Embedding with BERT |** *link to project* — Sep 2022
- Developed a Tensorflow-based ensemble algorithm with unsupervised embeddings, boosting precision significantly.
- Improved summary quality exceeded ROUGE-1 and ROUGE-L scores by 8% and 6% with ELmo and Attention.

## EXTRA-CURRICULAR

- Author of 3+ research featured in IEEE journals in NLP with 75+ citations, signifying notable field impact.
- Taught 200+ students in Python, JavaScript, and Data Structures; also started a *Youtube* channel on AI and NLP.

## PUBLICATIONS

[1] M. Gupta, H. Patel. Extractive Text Summarizer with Elmo. In 2020 4th I-SMAC, pages 829–834, 2020.
[2] M. Gupta, H. Patel. Text Summarization: LSA Topic Modelling with BERT. In 2021 Int. Conf. on AI Smart Systems, pages 511–517, 2021.
[3] S. Gupta, H. Kalla. Micro State EEG Analysis via RNN. In 2021 i-PACT, pages 1–6, 2021.