# CHANDRAMOULI GUNA

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- **LinkedIn**                                             **GitHub**                                                   Portfolio

## Machine Learning Engineer | R&D & OTA & Insurance Sector

### Solving Complex Business Problems with ML & DL algorithms and GCP

**Solutions-driven Machine Learning Engineer** with over 6+ years of experience designing, developing, and deploying diverse machine learning, NLP, and recommender systems for production environments. With a master's degree in computer science, I possess knowledge in neural networks, ranking, ML, and information retrieval. I excel in the end-to-end data science lifecycle, including data exploration, feature engineering, model selection, training, and testing. Skilled in collaborating with stakeholders, I provide valuable insights for data-informed decision-making. Additionally, I have a strong command of Google Cloud Platform (GCP), particularly in leveraging Vertex AI, Cloud SQL, Big Query, Cloud Run, and Cloud Functions. My proficiency extends to developing real-time ML pipelines and applications, utilizing GCP services for scalable and efficient deployments.

### Skills:

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|---|---|---|
| • R, Java, Python | • Data Analysis | • MySQL, Oracle |
| • Quantitative predictions | • Machine learning and pipelines | • Web application development |
| • Deep neural networks, CNN, and LSTMS | • Data visualization | |
| • NLP, recommender systems | • Stakeholder interactions | • Rest API with Django |
| • TensorFlow and Keras | • Product development | • SDLC |
| • Spark ML | • AWS | |

### Experience

**Brightflag (Legal Ebilling and Matter Management)**                    **Aug 2024 – present**
**Senior Data Scientist**

As a Senior Data Scientist at Brightflag, I focus on developing and maintaining cutting-edge machine learning (ML) and deep learning (DL) models to enhance business insights and automation. My role extends beyond model development to implementing MLOps best practices, ensuring scalable, reliable, and efficient deployment of ML models. I collaborate with cross-functional teams to build AI-driven solutions, optimize workflows, and integrate advanced analytics into business operations. Additionally, I contribute to LLM-based innovations, enhancing model explainability and implementing guardrails for safe and effective AI applications.

- Build and optimize dashboards for business intelligence, enabling data-driven decision-making.
- Work on AskBrightflag, implementing guardrails for LLMs, and enhancing the explainer component of LLM-generated outputs.
- Gained hands-on experience with AWS, ElasticSearch, Bedrock, and AWS Lambda, leveraging cloud technologies for scalable AI solutions.

**Hostel World (Online Travel Agent)**                              **Sept 2021 – Aug 2024**
**Machine Learning Engineer**

Design and deploy scalable AI architectures and data solutions using GCP tools like Vertex AI, Cloud SQL, BigQuery, Cloud Run, and Cloud Functions. Develop and automate ML pipelines and ETL workflows with Airflow, ensuring efficient data processing. Analyze user data to build predictive models that optimize Google Ads auctions, driving successful campaign outcomes. Implement CI/CD using GitHub Actions, Terraform, and Terragrunt for seamless

deployment and versioning. Ensure data governance best practices, conduct A/B testing, and drive continuous AI innovation.

- Developed machine learning-based recommender system: Created a recommender system to increase conversion rates on the company's website. Collaborated with cross-functional teams such as SRE, development, and testing. Leveraged VertexAI tools for model deployment and utilized Cloud Run for API deployment, resulting in improved recommendations and customer experiences.
- Leveraged VertexAI pipelines and cost-saving measures: Utilized VertexAI pipelines for ETL processes instead of Airflow, reducing costs by 2K euros per month. Implemented efficient resource allocation using Terraform and Terragrunt, optimizing workflows and saving expenses.
- Developed API endpoint with CI/CD workflows: Developed an API endpoint using FastAPI and implemented CI/CD workflows with GitHub Actions. Enabled versioning and conducted A/B tests to improve model performance continuously. Collaborated with SRE, web, and mobile development teams for seamless deployment.
- Successful A/B tests and exploitation of position bias: Conducted various A/B tests, including exploiting position bias, to boost properties with low traffic. Achieved a 0.5% increase in conversion rates through targeted experiments and strategic optimizations.
- Implemented machine learning solution for Google Ads bidding: Replaced manual bidding with a machine learning solution, reducing bid update time from 1-2 days to just 10 minutes. Successfully updated hundreds or thousands of bids weekly, achieving efficient and automated bidding processes.
- Developed a new bidding process: Conducted thorough research on Google Ads, trained a model to categorize properties into churns based on predicted conversion rate, and devised equations to convert predicted conversion rates into bids. Achieved 50% higher ROAS targets and increased conversion rates significantly..

**NTT DATA (Multinational professional services company)**          **Sept 2016 – July 2020**
**Jr Machine Learning Engineer**

Developed machine learning proof of concepts (POCs) and built ML pipelines for data cleansing and analysis. Worked on business process mapping and workflow analysis using data modeling techniques.

- Designed and deployed an ML pipeline for a web application using NLP (K-means clustering, cosine similarity) to eliminate duplicate data via a Python API.
- Built and optimized ML and data processing pipelines, improving data insights and decision-making.
- Developed a real-time dashboard to monitor data duplicates, reducing redundant data by 20% and manual effort by 15%.
- Predicted customer churn with 88% accuracy and applied time-series analysis for seasonal customer retention trends.

| Technology Summary | |
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| **Frameworks and libraries:** | NumPy, pandas, Django, TensorFlow, Word2vec, ggplot2, tidy, FastAPI |
| **Systems:** **Programming languages:** **Additional Tools and Technologies:** | Windows, Linux Python, R, SQL. Hadoop, Spark, Jupyter Notebook, deep learning, regression trees, Clustering, |

| Education |
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| 1) **NUI Galway – Ireland | MSc, Data Analytics | Sept 2020 – Sept 2021 | 1.1** |
| 2) **Vignan's University – India | Bachelor of Technology (Mechanical Engineering)  | 2012 – 2016 | 7.7 CGPA** |