Ayushi Mandlik

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LinkedIn | Portfolio

Professional Summary

Resourceful and analytical Data Scientist with a strong foundation in machine learning, statistical modeling, and data engineering. Experienced in delivering real-world solutions across domains such as logistics, customer analytics, and scientific research. Skilled in building and deploying predictive models, performing advanced data analysis, and automating data pipelines. Proven track record of cross-functional collaboration, stakeholder engagement, and leading technical discussions. Demonstrated leadership through technical coordination roles and hackathon success.

Technical Skills

- **Languages & Libraries:** Python (NumPy, Pandas, Scikit-learn, TensorFlow, Keras), SQL
- **ML & Statistical Methods:** Supervised/Unsupervised Learning, Regression, Classification, Clustering (DBSCAN, K-Means), Forecasting, CNNs, Bayesian Inference, A/B Testing
- **Data Tools & Platforms:** Dataiku DSS, GCP (BigQuery), AWS (Foundational), Git, Tableau, Zoho CRM
- **Engineering & MLOps:** ETL, Workflow Automation, HPC (Slurm, OzStar, JURECA), Jupyter Notebooks
- **Visualization & Reporting:** Tableau, Matplotlib, Seaborn, Dashboards, Technical Presentations

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Professional Experience & Projects

Data Analyst | Project Lead

Truetel, Melbourne • *Apr 2024 – Mar 2024*
Software & Tools: Python, SQL, Excel, Zoho CRM, Google Sheets, Zapier

- Developed automated lead management and customer engagement workflows using Zoho CRM.
- Implemented data pipelines to migrate and clean customer data, improving CRM usability and campaign tracking.
- Applied rule-based customer segmentation for improved targeting and engagement.
  Strategic Relevance: Showcases customer segmentation, ETL workflows, and cross-team collaboration.

Data Science Intern

Australia Post, Melbourne • *Jan 2024 – Apr 2024*
Software & Tools: Python, Dataiku DSS, GCP (BigQuery), Tableau, Git

- Enhanced parcel volume forecasting using hierarchical reconciliation; improved accuracy (MAPE reduction of 1%).
- Built automated pipelines for demand forecasting and reporting within Dataiku DSS.
- Conducted A/B comparisons for model evaluation and communicated results via Tableau dashboards.
  Strategic Relevance: Highlights statistical analysis, A/B testing, forecasting, and data visualization.

Real-Time ML for Signal Detection

Centre for Astrophysics and Supercomputing • *Oct 2019 – Jan 2024*
Software & Tools: Python, TensorFlow, Keras, NumPy, SciPy, Slurm, HPC

- Developed a GPU-accelerated CNN pipeline for real-time classification of astrophysical signals.
- Applied DBSCAN clustering to reduce RFI noise and streamline input to classifiers.
- Conducted regression modeling to improve detection rates across varying input conditions.
  Strategic Relevance: Demonstrates model building, MLOps practices, clustering, and noise filtering.

Bayesian Inference & Model Evaluation

Centre for Astrophysics and Supercomputing
Software & Tools: Python, Bilby, Matplotlib, Jupyter, SciPy

- Used Bayesian inference for parameter estimation and model comparison.
- Evaluated models using AIC, chi-square, and likelihood-based criteria.
  Strategic Relevance: Demonstrates understanding of statistical modeling and risk-based evaluation.

Research Projects – Max Planck Institute for Radio Astronomy

Software & Tools: Python, JURECA HPC, NumPy, Astropy, Matplotlib

- Processed 100+ TB of astronomical data using Python pipelines for galaxy imaging and magnetic field analysis.
- Built 3D visualizations and automated scripts to analyze star-forming regions and distance estimation.
  Strategic Relevance: Strong ETL, large-scale data processing, and scientific computing experience.

Leadership & Initiatives

- **Team Lead** – Gravitational Wave ML Hackathon: Directed a successful ML team from ideation to deployment.
- **ML Journal Club Coordinator** – Swinburne University: Led collaborative reading sessions on cutting-edge ML topics.
- **UTMOST Student Telescope Operator** – Managed real-time telescope operations for live signal collection.

Education

Master of Science (Research Focus)
Max Planck Institute for Radio Astronomy, Germany

Bachelor of Science
Christ University, India

Note: Research conducted from 2019 to 2024 in astrophysics and ML under academic project funding.

Awards

- **Astrophysics Scholarship** – Centre for Supercomputing & Astrophysics (2019–2023)
- **Thesis Stipend** – Max Planck Institute (2017–2018)
- **Academic Merit Scholarship** – Christ University (Top 3 rank)
