Adrino Rosario James

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Personal Profile

A self-directed University student seeking a research internship in Machine Learning. My research interests focus on Computer Vision and Classical Statistical Learning, particularly Feature Extraction, Probabilistic Reasoning, and Model Interpretability. I have undertaken independent projects, demonstrating consistent learning and practical application, and continue to study mathematics and statistics to strengthen my foundations.

Education

Christ University: BASc Computer Applications 2024 - 2027

- **Grade:** First Class Hons (Expected)
  First Class in Year 1 with an 82% average

  Relevant Modules:
  Data Analysis using R, Discrete Mathematics, Artificial Intelligence and Human Machine Interface, Research Methodology, Data Structures and Algorithms

Research Experience & Projects

Stellar and Galactic Object Classification - Independent Research 2025

- Developed machine learning models for multi-class astronomical object classification using Sloan Digital Sky Survey dataset (5M+ observations)
- Engineered domain specific features from photometric and spectroscopic data achieving 96% classification accuracy with classical ML algorithms (top 5% performance benchmark)
- Conducted systematic comparison with loss functions and hyperparameter tuning

Efficient Deep Learning Architectures for CIFAR100 - Independent Research 2025

- Designed and evaluated hybrid CNN architectures combining residual blocks and dense connections for fine-grained image classification (100 classes)
- Achieved 60% top-1 accuracy while reducing model parameters by 30-50% compared to standard ResNet baselines through architectural innovations
- Investigated tradeoffs between model capacity, computational efficiency, and generalization through systematic comparisons

Transfer Learning vs Training from Scratch on Small Datasets - Independent Research 2025

- Conducted empirical study comparing transfer learning approaches against custom CNN architectures for image classification with limited data
- Evaluated preprocessing strategies against architectures trained from scratch
- Analysed trade-offs in generalization, training stability, and accuracy while working with small-scale datasets

Technical Skills

- Programming: Python (Numpy, Pandas, ScikitLearn, Seaborn, SciPy), R, SQL, C++, Java
- ML/DL Frameworks: PyTorch (torchvision)
- Specializations: Computer Vision
- Tools & Platforms: Git, GCP, Jupyter, LaTeX

Relevant Research Skills

- **Research Design:** Hypothesis formulation and testing, sampling techniques, survey design, critical evaluation of research literature
- **Academic Writing:** Literature review synthesis, abstract writing, scientific paraphrasing, citation management (Zotero)
- **Research Ethics:** IRB protocols, ethical research practices, data privacy considerations

Additional Courses

- **Advanced Data Analytics Specialization** – Google/Coursera (2025)
- **MIT 6.S191: Introduction to Deep Learning** – MIT (2025)
- **Scientific Computing with Python** – freeCodeCamp (2021)

Leadership Experience

- **Research Lead** – AI Guild, Centre for AI, Christ University (2024 – Present)
  - Conducted workshops on AI research frontiers and methodologies for 50+ students
  - Co-launched a monthly webinar series featuring industry experts and practitioners
- **University & Deanery Level Representative** – Christ University (2024 – Present)
  - Led cross-functional team of 50+ members in organising national-level academic events with 200+ attendees
  - Co-launched institutional podcast series, enhancing community engagement and outreach
- **Vice President** – Finance Society, Christ University (2025 – Present)
  - Lead team of 9 students in producing newsletters on quantitative finance