Kenneth N. Reid, Ph.D.

Ken@kenreid.co.uk · github.com/drkenreid

Summary

Senior Data Scientist focused on optimization, machine learning, evolutionary computation, and full data science lifecycle. Experienced educator and researcher.

Technical Skills

- **Data Science:**
  - Machine Learning, GenAI, Visualization, Statistical Analysis, Data Collection & Cleaning
- **Code:**
  - Python, R, SQL, Java
- **Visualization:**
  - Tableau, Seaborn, Matplotlib
- **Version Control:**
  - Git, SVN
- **Other:**
  - Docker, LaTeX

Experience and Education

Senior Data Scientist, Rocket Mortgage (07/2025 - Present)

- **Risk Hedging Optimization**: Applied exact solvers and AI methods to improve mortgage risk hedging and pool optimization
- **Decision Tooling**: Built data/model tooling to evaluate trade-offs in risk exposure, liquidity, execution efficiency
- **Operational Integration**: Embedded algorithmic insights into decision workflows under confidentiality and regulatory constraints
- **Cross-Functional Alignment**: Partnered with quantitative, capital markets, and engineering teams to validate assumptions and reduce turnaround time
- **Stakeholder Communication**: Translated complex quantitative trade-offs for non-technical decision makers

Honorary Fellow, University of Stirling (10/2025 - Present)

- **Research Collaboration**: Continued academic engagement, mentorship, and research contributions within the Computing Science division

Data Scientist, University of Michigan MIDAS (04/2023 - 07/2025)

- **Cross-Domain Support**: Delivered data science expertise across diverse research domains and data modalities
- **Advanced ML Development**: Co-developed novel ML models with domain experts to address unique research problems
- **Collaboration Analytics**: Applied network analysis to inform collaboration strategies and support funding efforts
- **Education Leadership**: Organized and taught AI bootcamps for faculty, staff, and industry professionals
- **Strategic Alignment**: Coordinated with leadership to align project roadmaps with institutional priorities
- **Metadata Automation**: Led LLM tooling for automated README, license guidance, filetype mapping, sensitive content checks
- **Resource Discovery**: Built internal LLM assistant for data science resource navigation and authored GenAI guidelines
- **Technical Communication**: Delivered workshops translating complex ML concepts for varied academic audiences

Prior Research Roles, MSU & University of Stirling (04/2019 - 04/2023)

- **Genomic Prediction**: Applied ML methods achieving +15% accuracy improvement in genomic prediction tasks
- **Workforce Scheduling**: Developed hybrid metaheuristics (26% conflict reduction) and evolutionary hyperparameter optimization
- **Public Health Modeling**: Built ML models on multi-spectral satellite data for malaria risk mapping
- **Performance Engineering**: Optimized compiler pass sequences and initiated trajectory mining research
- **Mentorship**: Guided graduate researchers and co-authored peer-reviewed publications
- **Interdisciplinary Collaboration**: Coordinated cross-lab efforts and supported junior researchers' technical growth

Education

- **Ph.D. Computing Science**: University of Stirling (2019)
- **B.Sc. (Hons) Computing Science**: University of Stirling (2013)
- **Research Communication**: Independent problem formulation, peer-reviewed publishing, stakeholder presentation

Selected Publications

- Boyko, J., et al. (2023). An Interdisciplinary Outlook on Large Language Models for Scientific Research. arXiv. *Under Review in Science Advances.*
- Han, J., Gondro, C., Reid, K.N., Steibel, J.P. (2021). Heuristic hyperparameter optimization of deep learning models for genomic prediction. G3 Genes | Genomes | Genetics.
- Reid, K.N., et al. (2019). A Hybrid Metaheuristic Approach to a Real World Employee Scheduling Problem. GECCO'19: The Genetic and Evolutionary Computation Conference 2019. ACM.