Andrew Parry

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Education

- **University of Glasgow** — Glasgow, Scotland
  PhD in Computer Science - Full scholarship; Research in Neural Search Robustness & Efficiency — *Oct 2022 -*
- **University of Glasgow** — Glasgow, Scotland
  Bsc (Hons) in Computer Science with specialisation in Data Management; 1st Class Honours — *Sept 2018 - May 2022*
  Courses: Artificial Intelligence, Machine Learning, Deep Learning, Big Data, Text as Data, Information Retrieval, Functional Programming, Algorithmics

Skills Summary

- **Languages**: Python (Fluent), R(Proficient), Java(Proficient), C++, Rust Q, SQL
- **Tools**: Pytorch, Tensorflow, Spark (Java & Python), Kubernetes Workflows, Docker, Postgre, Power BI, FastAPI

Experience

- **University of Glasgow** — Glasgow, Scotland
  Research Assistant — *May 2022 - Sept 2022*
  - **Research in Variational Inference**: Investigated multiple methods with empirical testing of parameters.
  - **Code Base Optimisation**: Verified baseline results and took steps to optimise the previous codebase to better scale to both larger models and datasets using Tensorflow probability.
- **Waterstons Consulting** — Durham, England
  Data Analytics Intern — *May 2021 - August 2021*
  - **Delivered Production Ready Image Classification Model**: Handled full development of a production-ready model and interface with a client representing a large logistics company. Created a high-performing image classification model and deployed it with a REST API to be integrated into a larger software suite. Feedback from my client was excellent.
  - **Delivered HR Dashboards for Senior Management**: Created dashboards delivering KPIs and graphs for HR tasks and goals integrated with an HR database to reduce workload updating senior management.
  - **Modernised Assessment Process for Software Bidding within the Company**: Created a digital form and associated dashboard to quickly assess the opinions of multiple stakeholders in a software bidding process to replace previous manual methods.
- **Digital Skills Scotland** — Glasgow, Scotland
  Teaching Assistant, Graphic Designer — *June 2015 - Sept 2021*
  - **Designed Graphics for Online Learning**: Created banners for lessons catching the attention of Edinburgh University, with whom I created a banner for a talk and workshop at their science festival.
  - **Provided Learning Materials for SQA National 5 Computing Course**: Provided a mock brand logo and web assets for the National 5 Computing Web Design teaching component.
  - **Assisted Teaching in Disadvantaged Areas of Glasgow**: Worked with children and young adults to help them develop an interest in programming and wider technology, such as hardware, including Arduino and Raspberry Pi computers.

Publications

- **[SIGIR 2024] "In Context Learning" or How I learned to stop worrying and love "Applied Information Retrieval"**: M. Chandra, **A. Parry**, D. Ganguly
- **[ECIR 2024] Analyzing Adversarial Attacks on Sequence-to-Sequence Relevance Models**: **A. Parry**, M. Fröbe, S. MacAvaney, M. Potthast, M. Hagen
- **[TREC DL 2023] Generative Relevance Feedback and Convergence of Adaptive Re-Ranking**: **A. Parry**, T. Jaenich, S. MacAvaney, I. Ounis

Pre-Prints

- **Exploiting Positional Bias for Query-Agnostic Generative Content in Search – Under Review as Full Paper**: **A. Parry**, S. MacAvaney, D. Ganguly
- **Top-Down Partitioning for List-Wise Rankers – Under Review as Short Paper**: **A. Parry**, S. MacAvaney, D. Ganguly

Projects

- **Contrast**: IR components for training neural ranking models
- **LightChain**: Efficient program chaining for generative agents
- **PyTerrier GenQR**: Replication of generative query reformulation with PyTerrier bindings
- **PyTerrier LLM**: Terrier bindings for LLM-based re-rankers

Awards

- **TREC**: 3rd Overall in TREC Deep Learning 2024
- **College**: PhD Full Scholarship

Academic Service

- **TREC**: Lead on Deep Learning 2023 Track
- **Internal**: Organiser of the Terrier Special Interest Group in Generative IR, Maintenance of internal LLM APIs
- **Marking**: Text as Data (MSci), Machine Learning (BSc Hons)
- **Peer Review**: Springer Nature Computer Science, NeurIPS'23, SPIRE'23, ECIR'24, SIGIR'24
- **Assistant Reviewer**: KDD'23, WWW'23, ICTIR'23, CIKM'23
- **Volunteering**: ECIR'24
- **Undergraduate Mentoring**: YanLing Liu, Rajan Rana
- **Postgraduate Co-Supervision**: Rachael Charmaine Martin, Hallton Jiao, Haodong Ma