Andrew Parry

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Education

University of Glasgow, PhD in Computer Science — Oct. 2022 to 2025

- Research in Neural Search Robustness & Efficiency

University of Glasgow, Bsc (Hons) in Computer Science — Sept. 2018 to June 2022

- 1st Class Honours
- **Coursework:** Artificial Intelligence: A, Machine Learning: A, Deep Learning: A, Big Data: A, Text as Data: A, Information Retrieval: A, Functional Programming: A.

Publications

[ReNeuIR@SIGIR 2024] Top-Down Partitioning for List-Wise Rankers — 2024
Andrew Parry, Sean MacAvaney, Debasis Ganguly

[ACL 2024 Findings] Exploiting Positional Bias for Query-Agnostic Generative Content in Search — 2024
Andrew Parry, Sean MacAvaney, Debasis Ganguly

[SIGIR 2024] Axiomatic Guidance for Efficient and Controlled Neural Search — 2024
Andrew Parry

[SIGIR 2024]"In Context Learning" or How I learned to stop worrying and love "Applied Information Retrieval" — 2024
Andrew Parry, Debasis Ganguly, Manish Chandra

[ECIR 2024] Analyzing Adversarial Attacks on Sequence-to-Sequence Relevance Models — 2024
Andrew Parry, Maik Fröbe, Sean MacAvaney, Martin Potthast, Matthias Hagen

Experience

Research Assistant, University of Glasgow – Glasgow UK — May 2022 to Sept. 2022

- Applying variational inference and augmentation for low information classification.
- PI: Dr. Debasis Ganguly

Data Analytics Intern, Waterstons Consulting – Durham, UK — June 2021 to Sept. 2021

- Handled full development of a production-ready vision model and interface with a client representing a large logistics company. Feedback from my client was excellent.
- Created dashboards delivering KPIs and graphs for HR tasks and goals integrated with an HR database to reduce workload, updating senior management.
- 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.

Teaching Assistant, Graphic Designer, Digital Skills Scotland – Glasgow, UK — June 2015 to Sept. 2021

- Created banners for lessons catching the attention of Edinburgh University, with whom I created banners for a talk and workshop at their science festival. Provided resources for the National 5 Computing Web Design teaching component.
- Worked with children and young adults from disadvantaged areas to help them develop an interest in programming and wider technology, such as hardware, including Arduino and Raspberry Pi computers.

Awards

SIGIR 2024 Travel Grant: Covers registration and travel fees.

Lead on TREC Deep Learning 2023: 3rd Overall in TREC Deep Learning 2023.

Full PhD Scholarship: Awarded by the School of Computing Science.

Projects

LSRChain Apr. 2024

- Collaborative effort to improve the viability of sparse retrieval in production.

Contrast Feb. 2024

- IR components for training neural ranking models wrapping transformers and torch.

PyTerrier List-Wise Feb. 2024

- Terrier bindings for LLM-based re-rankers.

LightChain Sept. 2023

- Efficient program chaining for generative agents.
- Following the PyTerrier paradigm.

PyTerrier GenQR Sept. 2023

- Replication of generative query reformulation with PyTerrier bindings.

Technologies

Languages: Python (10+ years), R(5 years), Java(5 years), C++, Rust Q, SQL

Software: Pytorch, Tensorflow, Spark (Java & Python), Kubernetes Workflows, Docker, Postgre, Power BI, FastAPI

Mentoring And Supervision

Undergraduate Mentoring Jan. 2023

- YanLing Liu – Now: Msc Computing Science
- Rajan Rana – Now: Startup Founder

Postgraduate Co-Supervision 2023 to 2024

- Rachael Charmaine Martin – *In-context learning for classification* - Now: Industry Position
- Hallton Jiao – *Hard negative selection for dense retrieval* – Now: Industry Position
- Haodong Ma – *In-context learning for ranking* - Now: Graduation imminent

Academic Service

TREC: Team Lead on Deep Learning Track 2023 (3rd Place), RAG Track 2024

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)

Reviewer: Springer Nature Computer Science, NeurIPS'23, SPIRE'23, ECIR'24, SIGIR'24

Assistant Reviewer: KDD'23, WWW'23, ICTIR'23, CIKM'23