Kanishk Verma

kanishk.tcet@gmail.com kanishk-verma kanishk-r-verma.github.io kanishk-verma

Education

PhD Computer Science *Sept 2021 - August 2025*
Dublin City University, Ireland

- *Thesis*: Data-driven Toolkit to Combat Cyberbullying amongst Teens (project website)
- *Description*: This interdisciplinary doctoral project leverages social scientific theories to develop tool-kits through participatory co-design sessions with teenagers, aimed at detecting and preventing cyberbullying amongst teens.

MSc. Computer Science *Sept 2019 - August 2020*
Dublin City University, Ireland

- *Thesis*: Implicit aspect-based opinion mining and analysis of airline industry based on user-generated reviews. (research article)

Bachelor of Engineering in Information Technology *Aug 2012 - July 2016*
University of Mumbai, India

- *Coursework*: Relational database management systems, Data structures and algorithms, Web programming, Object Oriented Programming

Experience

Research Assistant *Dublin, Ireland*
Adapt Centre, SFI *Sept 2020 – Aug 2021*

- Conducted comprehensive meta-analysis of 150+ academic papers and industry tools, leveraging large-scale data processing techniques to extract actionable insights on cyberbullying detection strategies for Meta's (Facebook/Instagram) Content Policy Grant project.
- Applied social network analysis and natural language processing techniques to engineer experiments with state-of-the-art machine and deep learning algorithms, achieving 81% average F1 scores in classifying cyberbullying-associated user-generated content from extensive social media datasets.
- Led cross-functional collaboration between social and computational science experts, designing and facilitating multiple co-design focus group studies with 30+ teenagers to develop data-driven, socially-informed cyberbullying prevention strategies.

Data Scientist Intern *Dublin, Ireland*
Radmol AI *March 2020 – Aug 2020*

- Engineered a machine learning framework utilising language models and statistical inference techniques, reducing physician analysis time of colorectal cancer radiology reports by 15%.
- Implemented and optimized state-of-the-art NLP models through domain-specific fine-tuning and transfer learning, achieving 79% accuracy in comparative analysis of complex medical reports.
- Conducted rigorous statistical analyses, including hypothesis testing and confidence interval estimation, to validate model performance and ensure clinical relevance of the AI-driven insights.

Software Analyst *Mumbai, India*
Accenture *Nov 2016 – May 2019*

- Engineered and implemented an automated financial reporting system utilising relational databases and complex SQL queries, integrating with Selenium and Java, resulting in a 12% boost in client financial efficiency over a fiscal year.
- Led multiple knowledge transition sessions with diverse stakeholders, driving 8% time savings for client businesses through optimised knowledge sharing and streamlined processes.

Technical Skills

- **Languages:** Python, R, C++, Java, SQL, HTML, CSS.
- **Frameworks**: Social network analysis, Statistical Inference, PyTorch, LoRA, Prompt-tuning, Transfer Learning.
- **Web Development Frameworks**: Django, Flask, Dash.
- **Cloud Technologies**: Google Cloud Platform (GCP), Firebase, Amazon Web Services (AWS), AWS S3 .

Achievements

- **Best Student Contribution Award, 2024**
  Awarded the best student contribution award by the Adapt - Science Foundation Ireland Research Centre, for leading and contributing to interdisciplinary projects at the 3rd ADAPT Annual Scientific Conference, Ireland (2024). (Article)
- **Online Content Safety Fellowship, 2021**
  Awarded the prestigious Irish Research Council (IRC) and Google Ireland fellowship to conduct a 4-year doctoral research project on online safety. (Article)

Publications

- **Journal Articles**

  1. **Leveraging Machine Translation for Cross-lingual Fine-grained Cyberbullying Classification amongst Pre-adolescents**
     Venue: Journal of Natural Language Engineering; DOI
  2. **Effectiveness of Artificial Intelligence–Based Cyberbullying Interventions From Youth Perspective**
     Venue: Social Media + Society; DOI

- **Conference Papers**

  1. **Beyond Binary: Towards Embracing Complexities in Cyberbullying Detection and Intervention - a Position Paper**
     Venue: Joint International Conference - Computational Linguistics and Language Resources and Evaluation (COLING-LREC) 2024; DOI

- **Workshop Papers**

  1. **DCU at SemEval-2023 Task 10: A Comparative Analysis of Encoder-only and Decoder-only Language Models with Insights into Interpretability**
     Venue: Semantic Evaluation (SemEval) within the Association of Computational Linguistics (ACL 2023); DOI
  2. **Can Attention-based Transformers Explain or Interpret Cyberbullying Detection?**
     Venue: Third Workshop on Threat, Agression Cyberbullying (TRAC) within the COLING 2022 ; DOI
  3. **Benchmarking Language Models for Cyberbullying Identification and Classification from Social-media Texts**
     Venue: Workshop on Language Technology and Resources for a Fair, Inclusive, and Safe Society within the 13th Language Resources and Evaluation Conference (LREC 2022); DOI

- **Reports**

  1. **Coimisiún na Meán : Online Safety Code** (Report)
  2. **Co-Designing Artificial Intelligence Based Cyberbullying Interventions on Social Media with Children: Qualitative Research Findings** (Report)