Postdoctoral Researcher, Natural language Processing for Combating Cyberbullying

National Anti-Bullying Research and Resource Centre

UNESCO Centre for Tackling Bullying in Schools and Cyberspace; ADAPT Centre at DCU

(Fixed Term Contract to 1 March 2021)

Role Overview

The ADAPT Centre for digital content platform technology seeks to appoint a Postdoctoral Researcher to conduct research into the automatic discovering semantic boundaries of Outsider Art from text. This position is based within the National Anti-Bullying Research and Resource Centre UNESCO Centre for Tackling Bullying in Schools and Cyberspace; ADAPT Centre at DCU.

Candidates for this position must have an excellent background in computational linguistics/natural language processing ideally in the context of the automatic detection and classification of internet-based cyberbullying, harassment or abuse. The ideal candidate will be sensitive to the ethical implications of working with Big Social Data, and have the capacity to work with social science research principles. The candidate will work under the guidance of Dr. Tijana Milosevic, postdoctoral researcher at ABC who designed the research proposal and Dr. Brian Davis, Assistant Professor at ADAPT in charge of supervising language processing activities. The ability to work effectively as part of the team is essential for this post. An external committee of expert academics with backgrounds in computer, data and internet research ethics will oversee, approve and monitor the ethical framework of the project and ensure ethical research of the project. The successful candidate will be Dublin based and may be required to work onsite from Facebook for some duration of the project.

Principal duties and responsibilities

The main duties of the position will include, but are not limited to:

- Adaptation of existing in-house supervised learning text analysis tool for Facebook and Instagram text content
- Processing and secure management of companies’ datasets
- Regularly interact with ethics committee to discuss the implications of ethical challenges and research outputs of their work
- If necessary, conduct this work on company premises in Dublin
- Engaging in writing reports and academic articles based on the project as well as on publications about the ethical implications of this research
- Assist with the logistical organization of focus groups and in-depth interviews with children and with the administrative aspects of their execution
- Delivering research outputs and providing input into reports as required
- Producing appropriate dissemination material and results of the research (i.e. producing high quality scientific publications, reports) in which he/she has engaged the mentorship of the Principal Investigator
● Provide project management support to PI(s)
● Supervise and assist junior researchers working on the project
● Engage in appropriate training and development opportunities as required by the Principal Investigator(s), the School or Research Centre, or the University
● Liaise with both internal and external stakeholders including industry and academic partners/collaborators
● Carry out administrative work associated with the programme of research as necessary

Qualifications and Experience:

Candidates for this position must have a doctorate in a relevant field: computational linguistics, Natural Language Processing with a focus on opinion mining/Machine Learning for NLP. In addition to the above, candidates with a qualification/research skill in social sciences would be highly desired. The ideal candidate will have expertise in Computational Linguistics/Natural Processing with strong machine learning skills in the field of online safety, social media or cyberbullying. Candidates with a strong publication track record, or with experience in the management of research projects, are particularly encouraged to apply. The successful candidate should be capable of working in a team and contributing to developing the research and policy agenda and the activities of the National Anti-Bullying Research and Resource Centre and the UNESCO Chair on Tackling Bullying in Schools and Cyberspace; as well as to ADAPT Centre at DCU.

- Strong programming skills in Python or Java
- Excellent research skills, with a good track record of publication output
- Good knowledge and experience of building opinion mining/information extraction pipelines (both knowledge based and learning-based approaches).
- Familiarity with corpus analysis techniques.
- Excellent presentation and communication skills
- Excellent team-working skills

It is desirable that applicants have:

- Experience working with Natural Language Processing toolkits such as GATE, NLTK/UIMA
- Experience with machine learning and deep learning algorithms, especially with respect to computer vision applications
- Experience with a deep learning framework, especially PyTorch or Tensorflow

Mandatory Training:

This appointment will be subject to the candidate successfully completing the Garda Vetting and Foreign Police Certification Processes.

Competencies (Depending on job grade, max 4):

The post holder will be required to have the following competencies:

- **Discipline knowledge and Research skills** – Demonstrates knowledge of a research discipline and the ability to conduct a specific programme of research within that discipline.
• **Understanding the Research Environment** – Demonstrates an awareness of the research environment (for example funding bodies) and the ability to contribute to grant applications.

• **Communicating Research** – Demonstrates the ability to communicate their research with their peers and the wider research community (for example presenting at conferences and publishing research in relevant journals) and the potential to teach and tutor students.

• **Managing & Leadership skills** - Demonstrates the potential to manage a research project including the supervision of undergraduate students.