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)

ADAPT is Ireland’s global centre of excellence for digital content technology. It combines the expertise of researchers at four universities (Trinity College Dublin, Dublin City University, University College Dublin, and Dublin Institute of Technology) with that of its industry partners to produce ground-breaking digital content innovations. ADAPT brings together more than 200 researchers who collectively have won more than €100m in funding and have a strong track record of transferring world-leading research and innovations to more than 140 companies. With €50M in new research funding from Science Foundation Ireland and industry, ADAPT is seeking talented individuals to join its growing research team. Our research and technologies will continue to help businesses in all sectors and drive back the frontiers of future Web engagement.

ABC – National Anti-Bullying Research and Resource Centre is a University Designated Research Centre within DCU’s Institute of Education. It recently received the prestigious status of UNESCO Chair in Tackling Bullying in Schools and Cyberspace. The Centre is dedicated to the study of bullying behaviour/online safety in schools and workplaces and to the development of resources and training to support employers, employees, schools, teachers and parents to prevent and intervene in bullying situations and to promote online safety. ABC leads the field of research, resource development and training in tackling bullying and online safety in Ireland and is an internationally recognised centre of excellence in bullying research.

Role Profile
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.

Research Career Framework:
As part of this role the researcher will be required to participate in the DCU Research Career Framework 1. This framework is designed to provide significant professional development opportunities to researchers and offer the best opportunities in terms of a wider career path. Our research and technologies will continue to help businesses in all sectors and drive back the frontiers of future Web engagement.
Background and role

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 standards. 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
- Write reports, as needed, about the effectiveness of any text analysis experiments
- Liaise with both internal and external stakeholders including industry and academic partners/collaborators
- Assist in identifying and developing related future research and funding initiatives
- 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.

**Candidates will be assessed on 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 communicating and 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.

**Salary Scale:** Post-Doctorate Researcher Scale, Pt 1 €37,874 - max. Pt 4 €41,373

**Closing date:** Friday, 17 January 2020
Informal Enquiries in relation to this role should be directed to:
Dr. Tijana Milosevic, National Anti-Bullying Research and Resource Centre, Dublin City University. E-mail: tijana.milosevic@dcu.ie
Please do not send applications to this email address, instead apply as described below.

Application Procedure:
Application forms are available from the DCU Current Vacancies (open Competitions) website at http://www.dcu.ie/vacancies/current.shtml and also from the Human Resources Department, Dublin City University, Dublin 9. Tel:+353 (0) 1 7005149.

Applications should be submitted by e-mail with your completed application form to hr.applications@dcu.ie or by post to the Human Resources Department, Dublin City University, DCU Glasnevin Campus, Dublin 9, D09W6Y4.

Please clearly state the role that you are applying for in your application and email subject line: Job Ref #RF1304 Postdoctoral Researcher, Natural language Processing for Combating Cyberbullying.

Dublin City University is an equal opportunities employer and is committed to promoting gender equality reflected in its attainment of the Athena SWAN Bronze Award. Information on a range of university policies aimed at creating a supportive and flexible work environment are available at www4.dcu.ie/policies/policy-starter-packs.shtml.