



UNIVERSITY of
BRADFORD

Natural Language Processing (NLP) Developer

**Faculty of Engineering and Digital
Technologies**



Job Description and Person Specification

Job Title:	Natural Language Processing (NLP) Developer
Grade:	Grade 7 Spine Point 30
Vacancy Reference:	
Faculty / Directorate:	FEDT
Service / Department:	CSAIE
Location:	University of Bradford
Reports to:	Dr Kulvinder Panesar
Responsible for:	Delivery of an advanced NLP prototype system
Special Requirements:	

Main Purpose

- This post of a Natural Language Processing (NLP) developer is to work on the PatientBot project at the University of Bradford. The project will involve the review of an existing software prototype for education of Pharmacy students with the aim of providing a commercially viable educational tool accessible via a web browser through the website idiagnose.co.uk. This post will include addressing the requirements specified during the consultancy stage of the project, and to take a major role in stage 2 of the project including design, development and testing tasks to improve both the software functionality and to enhance the use of more current NLP and Artificial Intelligence (AI) technology in the system. The post requires an individual with recent advanced specialist knowledge in software development and Natural Language Processing and will require critical decision-making skills relevant to NLP development, as well as effective communication with the project team at all stages.

Main Duties and Responsibilities

1. To review and analyse the existing code base and functionality, project context and documentation of formal project goals and software requirements.
2. To propose concepts for the design and develop additional software functionality for the website.
3. To identify, implement and evaluate technical options for the AI based application based on recent effective NLP solutions from academia and industry.
4. To conceptualise, design and develop the enhanced NLP and AI technology for conversational AI within the application.

5. To manage the project's file repository and progress on GitHub and sprint-based work activities.
6. To conduct regular formal testing and feedback sessions of the software and NLP/AI functionality with stakeholders.
7. To liaise with the project team at decision making points with detailed technical and critical explanations.
8. To adhere to professional, technical, and ethical standards relevant to the project
9. To participate in the ethical evaluation process of the solution in readiness for commercialisation.
10. To source and adapt technical ideas at various points of the development process with integrity from the wider technical community and networks.
11. To co-ordinate administrative activities for the project via regular online and face to face meetings and testing sessions in an agile manner, to communicate progress and identify problems and make decisions.
12. To create appropriate supporting technical documentation for the end solution, and provide end-user training materials and guides.

University of Bradford

Values

We will be an organisation that embodies our values in everything we do. These values are:

- **Excellence** is at the heart of everything we do
- **Trust** is the foundation of our relationships, underpinned by integrity in everything we do
- We give invention light and celebrate creativity and **innovation**
- **Inclusion** - diversity is a source of strength and must be understood, valued, supported and leveraged

Embedding these values across the University will shape our culture and drive our performance.

It is the responsibility of every employee to uphold the University values.

Equality, Diversity and Inclusion (EDI)

The University of Bradford is widely recognised as an Equality, Diversity and Inclusion (EDI) leading institution. Our EDI vision is to bring about, and be recognised as an exemplar of transformational diversity, inclusion and social mobility and emphasise the critical role of leadership in embedding intersectional EDI in order to make our diversity count and deliver impact.

It is the responsibility of every employee to act in ways that support equality, diversity and inclusivity and to work within the spirit and detail of the law, including the Equality Act 2010 and the Human Rights Act 1998.

The University provides a range of services and employment opportunities for a diverse population. Employees will treat all students and colleagues with dignity and respect irrespective of their background.

Employees are responsible for ensuring the University develops a culture that promotes equality, values diversity, and supports inclusivity. This responsibility includes services and functions the University provides and commissions, to students, colleagues, partners in other organisations, visitors and members of the public.

Training

Employees must complete any training that is identified as mandatory to their role. Training should be accessed locally by agreement with line managers and through the University's People and Organisational Development Service. Mandatory training must be completed on commencement of the role, without delay.

Health, Safety and Wellbeing

Health and Safety is a partnership between employee and employer each having responsibilities, as such all employees of the University have a statutory duty of care for their own personal safety and that of others who may be affected by their acts or omissions. It is also the responsibility of all employees, that they fulfil a proactive role towards the management of risk in all of their actions. This entails the risk assessment of all situations, the taking of appropriate actions and reporting of all incidents, near misses and hazards.

All employees have a duty to report any practice that you consider compromises standards of health and safety and risk. The Code of Practice on Public Interest Disclosure (Whistleblowing) details the process and advises on the protection from unfair treatment for an individual who raises such concerns.

Employees are required to co-operate with management to enable the University to meet its own legal duties and to report any circumstances that may compromise the health, safety and welfare of those affected by the University's undertakings.

Managers should note they have a duty of care towards any staff they manage; academic staff also have a duty of care towards students. As part of this you will need to ensure you are familiar with any relevant Health and Safety policies and procedures; seeking advice from the Central University Health and Safety team as appropriate.

Information Governance

Employees have a responsibility for the information and records (including student, health, financial and administrative records) that are gathered or used as part of their work undertaken for the University. This may be in paper, electronic or other formats. An employee must consult their manager if they have any doubts about the appropriate handling of the information and records with which they work.

This means that employees are required to uphold the confidentiality of all data, information and records and to ensure they are recorded to appropriate data standards and to the relevant electronic system or manual filing system in order to maintain their accessibility and integrity.

To support these requirements all employees must adhere to data protection legislation and the University's policies and procedures in relation to information governance and information security at all times.

Additionally, employees will be required, when and where appropriate to the role, to comply with the processing of requests under the Freedom of Information Act 2000.

All employees will be given the necessary training to enable them to adhere to these requirements.

Criminal Record Disclosures and Working with Vulnerable Groups

Depending on the defined nature of your work and specialist area of expertise, your role may be exempt from the provisions normally afforded to individuals under the Rehabilitation of Offenders Act 1974. In these circumstances, the University may obtain a standard or enhanced disclosure through the Disclosure and Barring Service (DBS) under the Rehabilitation of Offenders Act 1974 (Exceptions) Order 1975 (as amended) and, in certain circumstances, the Police Act 1997.

Suitable applicants will not be refused positions because of criminal record information or other information declared, where it has no bearing on the role (for which you are applying) and no risks have been identified against the duties you would be expected to perform as part of that role.

During the course of your employment, you must notify your line manager if you are charged with a criminal offence (excluding motoring fixed-penalty convictions). Failure to notify the University of a criminal conviction could lead to withdrawal of a job offer where employment has not commenced, or disciplinary action for employees in post. All employees of the University who have contact with children, vulnerable adults, service users and their families must familiarise themselves, be aware of their responsibilities and adhere to the University's policy and procedures and the Safeguarding Vulnerable Groups Act 2006. Where appropriate, employees will be given the necessary training to enable them to adhere to these requirements.

University Policies and Procedures

The University operates a range of policies, procedures and formal guidance (available on the University intranet and ServiceNow). All employees must observe and adhere to the provisions outlined in these documents.

Post Specification

Job Title Natural Language Processing (NLP) Developer

Faculty / Directorate Faculty of Engineering and Digital Technologies

School / Division Computer Science, Artificial Intelligence and Electronics

	Essential	Desirable
Qualifications	<ul style="list-style-type: none">• Bachelor's degree in computer science, Natural Language Processing, Artificial Intelligence or related subject with 2:1 result or better, or equivalent industrial experience	<ul style="list-style-type: none">• Master's degree in CS/NLP/AI related subject
Experience, Skills and Knowledge	<ul style="list-style-type: none">• Use of chatbots, NLP tools and techniques, NLP pipeline, text representation techniques and modelling• Experience with software design, development and testing, documentation in languages such as Python or similar• Experience with Natural Language Processing project(s) and specialist knowledge bases• Experience with machine learning platforms, frameworks and libraries and their use in practical applications• Specialist web development and online system component integration using HTML, JavaScript,	<ul style="list-style-type: none">• Training/testing and deployment of NLP and/or chatbot tools, use of speech-to-text tools• Experience using formal software design and testing approaches and project management• Knowledge of software development lifecycle/AI project lifecycle including deployment and maintenance• Practical experience of Web hosting and deployment via cloud-based systems and non-cloud• Adherence to responsible AI development

	Essential	Desirable
	<p>PHP, CSS or similar technologies, database technologies and connectivity with SQL or similar</p>	<ul style="list-style-type: none"> • Significant programming experience in web technologies and integration of modularly designed components
Personal Attributes	<ul style="list-style-type: none"> • Motivated, able to manage project tasks independently with some supervision • Strong communication skills both written and verbal, to effectively communicate project progress and outcomes • Strong specialist technical/computational skills, project management experience, agile development methodology 	<ul style="list-style-type: none"> • Project management experience either using Agile/Prince or similar approaches or similar project • Interest in conversational AI, education, health related solutions • Creative thinking and agile manner • An active LinkedIn profile