

From architecture to implementation, be part of a groundbreaking European digital medical research project

Post Title: Software / Android Developer

Post Duration: Until 30 Nov 2025

Salary Scale: €44,347 - €50,805

Location: ADAPT Centre, Trinity College Dublin

Reports to: Chief Technology Officer & Executive Manager

Precision ALS is a unique research programme that brings together Clinicians, Computer Scientists, Information Engineers, Technologists, and Data Scientists. The programme aims to advance clinical research in Amyotrophic Lateral Sclerosis (ALS) across Europe by developing an innovative and interactive research platform. This platform will leverage cutting-edge artificial intelligence (AI) methodologies to systematically analyse large volumes of clinical and genomic data. Through this advanced analytical approach, the programme seeks to generate novel insights into disease mechanisms, progression patterns, and potential therapeutic targets, thereby contributing significantly to the scientific understanding and treatment of ALS.

Precision ALS is a green field research initiative with the opportunity to advance engineering and development knowledge throughout the project lifecycle. This project will focus on rigorous research and experimentation to optimize data collection, integration, and analysis methods. On completion, Precision ALS will be a first-in-kind, research-driven modular transferable pan-European ICT framework for ALS. This innovative framework, underpinned by extensive research, will be designed to be easily adapted to other diseases that face similar precision medicine-related challenges, thereby broadening its impact and applicability in the field of medical research and healthcare.

Role Introduction

As a member of our dynamic technical team within a larger project group of 35+ colleagues, you will play a crucial role in the development of a sophisticated, research-driven, production-grade health research software system. This role involves using a variety of modern languages, technologies, and frameworks to advance the project's research and development goals.

Responsibilities

Collaborative Development:

Work within an agile team to execute the full software development lifecycle, focusing on research-driven methodologies. This includes:

- Iteratively gathering requirements from users and other stakeholders through detailed research and analysis.
- Helping prioritize requirements and planning development sprints based on research findings and project objectives.
- Developing high-quality, efficient, and flexible code with automated testing, informed by the latest research in software engineering.
- Preparing for system deployment using modern VM and container-based approaches for both on-premises and cloud deployment, incorporating best practices from current research in deployment strategies.

Skills Enhancement

Enhance your development and related skills by working on a challenging, high-impact research project with access to a wide range of training and development materials. Engage in continuous learning to stay updated with the latest research and technological advancements.

Research Contribution

Participate alongside leading experts in project activities and events to advance research in Amyotrophic Lateral Sclerosis (ALS). This project aims to create a precision medicine-based approach towards new drug development,

offering numerous benefits, including better clinical outcomes for patients and reducing the economic cost of these diseases. The research model developed for ALS will eventually serve as a blueprint for other diseases, enhancing the impact of precision medicine.

Data Harmonisation and Research Datasets: Contribute to the harmonisation of diverse datasets from various sources to ensure data consistency and reliability. This involves integrating clinical, genomic, and phenotypic data into a unified platform to support comprehensive analysis and research.

Machine Learning Applications: Apply machine learning techniques to analyse complex research datasets, uncover patterns, and predict disease progression and treatment outcomes. Collaborate with data scientists to develop and refine machine learning models that can provide actionable insights for ALS research and beyond.

Desirable

We understand that not all applicants will have experience in every area listed. If you have a strong foundation in software development and a keen interest in improving your skills, we encourage you to apply. We are committed to supporting your professional growth and development in the following areas:

- Mix of Object-Oriented Programming (OOP) and Functional Programming (FP).
- Full Stack Development and Engineering Experience:
- Front-end development with a focus on design and optimizing the user experience, using Kotlin for Android development and/or using React, SVG, and/or D3 for web development.
- Back-end REST-style API development, particularly in NodeJS/Typescript, Java/Kotlin, and/or Python.
- Scalable file/object storage technologies such as ZFS, S3, and/or CEPH, and similar data lake approaches.
- Modelling of complex heterogeneous datasets for structured storage within relational (e.g., Postgres, MySQL/MariaDB) and/or non-relational (NoSQL) databases (e.g., Mongo, Neo4j).
- Information security including authentication, authorization, access control, encryption, and key management techniques.
- Knowledge of health information modelling and/or interoperability standards, such as ISO13606, SNOMED CT, ICD11, OpenEHR, or HL7 (2, 3, FHIR).
- Your enthusiasm for learning and growing in these areas is just as important to us as your current expertise. We value dedication, adaptability, and a willingness to take on new challenges. If you are passionate about making a difference and eager to expand your skill set, we want to hear from you.

Attributes

- Initiative-taking.
- Ability to learn quickly.
- Attention to detail.
- Collaborator.
- Strong communicator.
- Adaptable to changing requirements.

Salary & benefits

Salary Scale: €41,209 - €53,091

- Competitive salary
- Flexible working arrangements
- Computer and peripherals of your choice
- A fast-paced environment with impactful work
- Pension
- Day Nursery
- Travel Pass Scheme
- Bike to Work Scheme
- Employee Assistance Programme
- Sports Facilities
- 22 days of Annual Leave
- Paid Sick Leave
- Training & Development
- Staff Discounts

Minimum qualifications

BSc. of Computer Science or equivalent working experience

Application Process

In order to assist the selection process, applicants should submit a Curriculum Vitae and a Cover Letter (1x A4 page) before 5pm on the 13th August, 2024.

Applicants Should:

- Clearly address their experience and how they obtained their knowledge in their application.
- Give examples of how their previous developer experience equips them to deliver the role on Precision ALS.
- Indicate which of the 'desirable' areas outlined above are most relevant for them.
- Illustrate, through experience, their ability to work on their own initiative and resolve problems.
- Provide a portfolio, if available, to showcase their relevant work and projects.

Successfully shortlisted applicants can expect to be interviewed on **22nd August**.

Why ADAPT?

- **Contribute** to the ADAPT research agenda that pioneers and combines research in AI driven technologies: Natural Language Processing, Video/Text/Image/Speech processing, digital engagement & HCI, semantic modelling, personalisation, privacy & data governance.
- **Work** with our interdisciplinary team of leading experts from the complementary fields of Social Sciences, Communications, Commerce/Fintech, Ethics, Law, Health, Environment and Sustainability.
- **Leverage our success** ADAPT's researchers have signed 43 collaborative research projects, 52 licence agreements and oversee 16 active commercialisation funds and 52 commercialisation awards. ADAPT has won 40 competitive EU research projects and obtained €18.5 million in non-exchequer non-commercial funding. Additionally, six spinout companies have been formed. ADAPT's researchers have produced over 1,500 journal and conference publications and nearly 100 PhD students have been trained.
- **Develop** skills in a fast-paced environment focused on cutting-edge technology innovation

As an ADAPT researcher you will have access to a network of 85 global experts and over 250 staff as well as a wide multi-disciplinary ecosystem across 8 leading Irish universities. We can influence and inform your work, share our networks, and collaborate with you to increase your impact, and accelerate your career opportunities. Specifically, we offer:

- Exposure and free access within a multi-disciplinary ecosystem across 8 leading Irish universities
- Opportunity to build your profile at international conferences and global events.
- Fast-track your career through formalised training & development, expert one-on-one supervision, and exposure to top AI specialists.

Diversity

ADAPT is committed to achieving better diversity and gender representation at all levels of the organisation, across leadership, academic, operations, research staff and studentship levels. ADAPT is committed to the continued development of employment policies, procedures and practices that promote gender equality. On that basis we encourage and welcome talented people from all backgrounds to join ADAPT.

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Engaging Content
Engaging People

A World
Leading SFI
Research
Centre

Science
Foundation
Ireland **sfi**
For what's next

About the ADAPT Centre

ADAPT is the world leading SFI research centre for AI Driven Digital Content Technology, coordinated by Trinity College Dublin and based within Dublin City University, University College Dublin, Technological University Dublin, Maynooth University, Munster Technological University, Athlone Institute of Technology, and the National University of Ireland Galway. ADAPT's research vision is to pioneer new forms of proactive, scalable, and integrated AI-driven Digital Content Technology that empower individuals and society to engage in digital experiences with control, inclusion, and accountability with the long-term goal of a balanced digital society by 2030. ADAPT is pioneering new Human Centric AI techniques and technologies including personalisation, natural language processing, data analytics, intelligent machine translation, human-computer interaction, as well as setting the standards for data governance, privacy, and ethics for digital content.



Engaging Content
Engaging People

A World
Leading SFI
Research
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O'Gallimh
NUI Galway