

Senior Software Developer

University Information Services

Closing Date: 18 November 2024

Job Reference: VC43714



Senior Software Developer

Salary:

£45,585 - £64,914

*In addition, this position is eligible for a market supplement of up to £10,086

Contract:

Permanent

Location:

Hybrid remote/Cambridge

Division:

Information Services

Responsible to:

Principal Software Developer

Working Pattern:

Full Time

Purpose of the role

The Senior Software Developer is part of large team of Software Developers that develop, deliver and operate applications that the university needs. The role holder: (a) plan and lead development on sets of related stories. (b) have an understanding of the whole system they manage and take responsibility for teaching this to others (c) work with other disciplines to understand what needs to be built (d) coach and mentor more junior colleagues (e) operate the production services they build, and (f) find ways to improve system robustness, resilience and stability.

Key responsibilities

The following duties of this role are based on the [Skills Framework for the Information Age \(SFIA\)](#)

System development management -5

- Defines solution development projects which support the

organisation's objectives and plans.

- Ensures that senior management is both aware of and able to provide the required resources.
- Contributes effectively to improving solution development processes within the organisation, justified by measurable business benefits.
- Facilitates availability and optimum utilisation of resources, especially in Agile projects.
- Monitors and reports on the progress of development projects, ensuring that projects are carried out in accordance with agreed standards, methods and procedures. Applies secure development improvement practices

Systems design - 5

- Specifies and designs large or complex systems. Selects appropriate design standards, methods and tools, consistent with agreed enterprise and solution architectures and ensures they are applied effectively
- Reviews others' systems designs to ensure selection of appropriate technology, efficient use of resources, and integration of multiple systems and technology
- Contributes to policy for selection of architecture components.
- Evaluates and undertakes impact analysis on major design options and assesses and manages associated risks.
- Ensures that the system design balances functional, service quality, security and systems management requirements.



Key responsibilities...continued

System Integration - 5

- Designs and builds integration components and interfaces. Leads practical integration work under the technical direction of the system/service designer. May contribute to the overall design of the service.
- May define the technical criteria for product/component selection. Contributes to decisions about tools, methods and approaches

system software is tailored to facilitate the achievement of service objectives. Plans the installation and testing of new versions of system software. Investigates and coordinates the resolution of potential and actual service problems. Ensures that operational documentation for system software is fit for purpose and current. Advises on the correct and effective use of system software.

Programming/software development - 5

- Sets local or team-based standards for programming tools and techniques, including security guidelines, and the selection of appropriate development methods. Advises on application of standards and methods and ensures compliance. Takes technical responsibility for all stages and/or iterations in a software development project, providing method specific technical advice and guidance to project stakeholders. Assigns work packages, monitors performance and manages change control dynamically, to optimise productivity. Provides advice, guidance and assistance to less experienced colleagues as required.

Solution architecture -5

- Uses appropriate tools, including logical models of components and interfaces, to contribute to the development of systems architectures in specific business or functional areas. Produces detailed component specifications and translates these into detailed designs for implementation using selected products. Within a business change programme, assists in the preparation of technical plans and cooperates with business assurance and project staff to ensure that appropriate technical resources are made available. Provides advice on technical aspects of system development and integration (including requests for changes, deviations from specifications, etc.) and ensures that relevant technical strategies, policies, standards and practices (including security) are applied correctly.

Release and deployment - 5

- Leads the assessment, analysis, planning and design of release packages, including assessment of risk. Liaises with business and IT partners on release scheduling and communication of progress. Conducts post release reviews. Ensures release processes and procedures are applied

Technical specialism - 5

- Maintains an in-depth knowledge of specific specialisms and provides expert advice regarding their application. Can supervise specialist consultancy. The specialism can be any aspect of information or communication technology, technique, method, product or application area.
- Actively contributes to the University IT Community in order to share knowledge, best practice, and technical expertise.

System Software - 5

- Evaluates new system software, reviews system software updates and identifies those that merit action. Ensures that



Person Specification

Criteria	Essential	Desirable
Experience		
Extensive experience with software development processes.	✓	
Experience designing and solving complex business problems by writing simple, effective code.	✓	
Experience writing and applying unit tests.	✓	
Experience writing and collaborating on highly insightful, comprehensive code reviews.	✓	
Experience designing, developing and creating RESTful web services and APIs.	✓	
Experience mentoring and growing developers.		✓
Familiarity with CI/CD and configuration tools.		✓
Experience with containers.		✓
Familiarity with Front-end technologies such as ReactJS or AngularJS.		✓
Demonstrated ability to use data to influence and drive decisions.		✓
Experience working in a DevOps environment.		✓
Experience designing software that can be deployed to cloud services.		✓
Experience with Amazon Web Services or Google Cloud.		✓
Has experience of gathering customer requirements and creating solutions to meet customer and business criteria.		✓
Working experience in a wide variety of databases, including both relational databases and NoSQL databases.		✓
Skills		
Can learn new skills independently and proactively.	✓	
Proficient in one or more programming languages (Python, Ruby, Java).	✓	
Capable to work in multiple programming languages and frameworks and constantly striving to raise technical excellence.		✓
Ability to work with highly complex, scalable code.	✓	
Can understand system and software specifications and choose use appropriate designs to meet requirements.	✓	
Can produce simple architectures from complex problems and is able to develop and deliver those designs.	✓	
Can debug complex problems.	✓	
Can train junior and mid-career developers.		✓
Excellent communication skills.	✓	
Strong user focus and passion for doing the right thing for them.		✓

Criteria	Essential	Desirable
Skills		
Ability to convince, provide work direction and leadership to colleagues who do not directly report to this role.		✓
Passion for innovation and excellence.		✓
Drive and commitment to see activities through to completion meeting deadlines matching pace to the urgency of the situation.	✓	
Excellent understanding of agile practices.	✓	
Extraordinary in-depth understanding of your asset's architecture, systematically thinking through potential design impacts on other teams and the company.		✓
Has a full-stack ability.		✓
Qualifications		
Degree Level scientific subject such as: Mathematics, Computing, Engineering or equivalent experience	✓	

Behavioural Attributes

This section summarises the behavioural attributes (or competencies) that we expect the role holder to be able to demonstrate and at what level.

Full definitions are at: <https://www.hr.admin.cam.ac.uk/policies-procedures/behavioural-attributes>

Please review these and provide specific examples in your application of how you have demonstrated these attributes in your work, education or other experience. It will assist your application if you explain the situation, what you did and what the outcomes were.

Attribute	Level
Valuing Diversity	A
Achieving Results	B
Communication	B
Innovation and Change	B
Negotiating and Influencing	B
People Development	B
Relationship Building	B
Strategic Focus	B

University Information Services



The UIS provides the digital infrastructure at the heart of the University's world-leading education and research.

For example, our high performance computing team has developed the UK's fastest academic computer and is supporting groundbreaking medical, engineering and astronomy research. Our networks team runs Europe's biggest privately owned ultra-high speed fibre optic network, connecting researchers, students and other organisations across Cambridge and beyond. And, the University's finance, HR and student administration rely on our business systems.

The University also has a bold ambition to use digitalisation to transform education and research. The UIS's team of developers, designers, testers, analysts and support staff is leading this exciting work. Our work ensures Cambridge continues to be one of the world's top universities.

The University of Cambridge consists of over 100 institutions (Departments, Faculties and Schools) and employs around 12,000 staff. The Director of Information Services leads a University Information Services function which positively adds value to the University. For the delivery of a world – class computing service for all of the relevant stakeholder communities.

As a customer focussed organisation the purpose of UIS is to provide business information services that underpin the critical management processes used across the collegiate University in research, teaching and administration.

The UIS works strategically with Schools, Faculties, Departments, Colleges and other institutions, in planning and delivering the future information service requirements of the University, progressively improving business processes, capabilities and information solutions that meet business needs.

Terms of Appointment

Tenure and probation

Appointment will be made on a permanent basis.

Appointments will be subject to satisfactory completion of a nine month probationary period.

Hours of Work and Working Pattern

The hours of work for the position are full time.

There are no formal conditions relating to hours and times of work but you are expected to work such hours and days as are reasonably necessary for the proper performance of your duties. Your times of work should be agreed between you and your head of institution.

Pension

You will automatically be enrolled to become a member of USS (Universities Superannuation Scheme) – a defined benefits pension scheme. For further information please visit: www.pensions.admin.cam.ac.uk/.

Annual leave

Full time employees are entitled to annual paid leave of 41 days inclusive of public holidays. For new part-time employees, annual leave will be pro rata'd based on days worked.

General information

Pre-employment checks

Right to work in the UK

We have a legal responsibility to ensure that you have the right to work in the UK before you can start working for us. If you do not have the right to work in the UK already, any offer of employment we make to you will be conditional upon you gaining it.

Health declaration

Once an offer of employment has been made the successful candidate will be required to complete a work health declaration form.

Qualifications

The person specification for this position lists qualifications that are essential and/or desirable. Please note that if you are offered the post you will be asked to provide your relevant original certificates of these qualifications.

References

Offers of appointment will be subject to the receipt of satisfactory references.

Equality and Diversity

We particularly encourage women and /or candidates from a Black, Asian and Minority Ethnic background to apply for this vacancy as they are currently under-represented at this level within our University.

Information if you have a disability

The University welcomes applications from individuals with disabilities. We are committed to ensuring fair treatment throughout the recruitment process. We will make adjustments to enable applicants to compete to the best of their ability wherever it is reasonable to do so and, if successful, to assist them during their employment.

Information for disabled applicants is available at <http://www.admin.cam.ac.uk/offices/hr/staff/disabled/>

We encourage you to declare any disability that you may have, and any reasonable adjustments that you may require, in the section provided for this purpose in the application form. This will enable us to accommodate your needs throughout the process as required. However, applicants and employees may declare a disability at any time.

If you prefer to discuss any special arrangements connected with a disability, please contact, the Department Administrator, who is responsible for recruitment to this position.

The University

The University of Cambridge is one of the world's oldest and most successful universities. We are a renowned centre for research, education, and scholarship that makes a significant contribution to society. The University is consistently ranked amongst the top universities in the world. Our affiliates have won more Nobel Prizes than any other University.

Our sustained pursuit of academic excellence is built on a long history of first-class teaching and research within a distinctive collegiate system. For eight centuries our ideas and innovations have shaped the world. Our principal goal is to remain one of the world's leading universities in an increasingly competitive global higher education sector. Today the University of Cambridge is at the centre of a cluster of over 4,300 businesses employing 58,000 people.

Our capital investment projects include the West Cambridge site, the North West Cambridge development and the growth of the Biomedical Campus in the south of the city. The North West Cambridge development includes the opening of a primary school – the first in the UK to be managed by a University. So we are deeply embedded in, and committed to serving, our local community. These are all conspicuous signs of a University that is not only adapting to new needs, but also anticipating the future.

Our mission is to contribute to society through the pursuit of education, learning, and research at the highest international levels of excellence. Our core values are:

- freedom of thought and expression; and
- freedom from discrimination.



About Us

The University is one of the world's leading academic centres. It comprises 150 faculties and departments, together with a central administration and other institutions. Our institutions, museums and collections are a world-class resource for researchers, students and members of the public representing one of the country's highest concentrations of internationally important collections.

The University has an annual income of £2 billion. Research income, won competitively from the UK Research Councils, the European Union (EU), major charities and industry, exceeds £500 million per annum and continues to grow.

The Colleges and the University remain committed to admitting the best students regardless of their background and to investing considerable resources both in widening access and financial support. The 31 Colleges are self-governing, separate legal entities which appoint their own staff. Many academic staff are invited to join a College as a Teaching Fellow, which provides a further social and intellectual dimension. The Colleges admit students, provide student accommodation and deliver small group teaching.

The University awards degrees and its faculties and departments provide lectures and seminars for students and determine the syllabi for teaching and conducting research.

Our instinct for seeking out excellence and setting up enduring and mutually beneficial collaborations has led us to establish strategic partnerships across the globe. Whether it is the successful Cambridge-Africa Programme involving universities in Ghana, Uganda and elsewhere on the African continent; or the close association with the government of India to pursue new research in crop science; or the creation, with Germany's Max Planck Institutes, of a Cambridge-based centre for the study of ethics, human economy and social change – international partnerships are now an inextricable part of the University's make-up.

“Cambridge graduates and researchers have made – and continue to make – a colossal contribution to human knowledge and the understanding of the world around us. Their work touches on the lives and livelihoods of everyone from patients diagnosed with life-threatening diseases, to residents of areas critically affected by climate change, to children growing up in conflict zones. It has a lasting impact on our society, our economy and our culture: the world is truly a better place thanks to their efforts.”

Stephen Toope, Vice Chancellor 2019



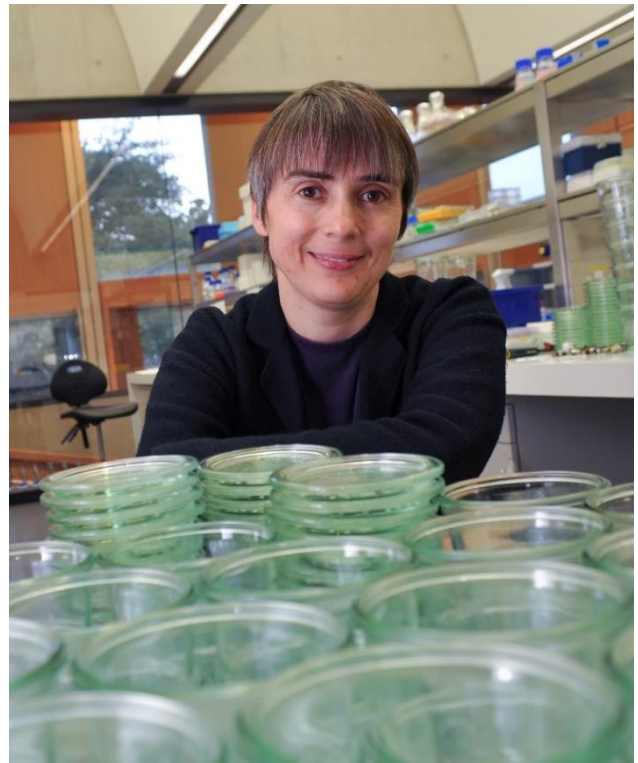
Working at the University

Working at Cambridge you will join a diverse, talented and innovative community, with more than 18,000 students and over 16,000 staff from all walks of life and corners of the world.

The University continually explores strategies to attract and retain the best people. It is committed to supporting its staff to achieve their best. We are a fair, diverse and inclusive society and we believe our staff are our greatest asset. There is strong commitment to developing institutional leadership and supporting and encouraging staff development at all levels.

We offer a variety of roles including academic, research, professional, managerial and support roles. We also offer extensive benefits and excellent learning opportunities within a stimulating working environment.

The University's estate is undergoing the most significant transformation in its history. Cambridge has been able to create a new science and technology campus to the west of the city centre, and is now expanding further to the north west of Cambridge including investing in affordable homes for University key workers and community facilities. Even with our continued development, the University remains within walking or cycling distance across the campus. The University is a major partner on the Cambridge Biomedical Campus and we continue to redevelop our historic city centre sites demonstrating our determination to ensure that we can offer the best facilities and opportunities for our staff and students.



Equality & diversity

The University has built its excellence on the diversity of its staff and student community. We aim to be a leader in fostering equality and inclusion, and in promoting respect and a sense of belonging for all. We encourage applications from all sections of society. All appointments are made on the basis of merit. We have an Equal Opportunities Policy, along with a range of diversity networks for women, black and minority ethnic and lesbian, gay, bisexual and transgender staff. More details are available here: <http://www.equality.admin.cam.ac.uk/>

The University has a bronze Race Equality Charter aware, with framework for improving the representation, progression and success of minority ethnic staff and students within higher education. Furthermore, the University's Athena SWAN award recognises and celebrates good practice in recruiting, retaining and promoting women.

Living in Cambridge

Cambridge is rich in cultural diversity. From beautiful University and College buildings, museums and art galleries, quaint gardens and punts on the River Cam, to a vibrant restaurant and café scene, our employees are surrounded by the wonderful features of this unique city.

You can find a wide-range of high street shops and 3 shopping centres, with independent alternatives at the historic market and nestled within the passageways in the city centre. You will find a cinema, bowling alley, a nightclub and various live performances At the Cambridge Leisure Park, with further entertainment options at the Corn Exchange, Arts Theatre and the ADC Theatre. Further information can be found on the Visit Cambridge website.

If you prefer the faster pace of life, London is a 45-minute train journey away. For those travelling from overseas, Stansted Airport is just 45 minutes away and Heathrow Airport under 2 hours away. The University is a short distance from a host of other attractions such as Ely Cathedral, Newmarket Races and various wildlife parks and stately homes. Cambridge is also within easy reach of the beautiful Broads and coastlines of Norfolk and Suffolk.

Relocation Support

The University recognises the importance of helping individuals to move and settle into a new area. We provide support and guidance to those relocating internationally or domestically to take up a post at the University of Cambridge, liaising with other University offices and selected partners to ensure comprehensive relocation support is available. This includes: accommodation, childcare, schools, banking, immigration and transport. If you would like further information, please visit <https://www.accommodation.cam.ac.uk/relocation>. The Shared Equity Scheme and the Reimbursement of Relocation Expenses Scheme provide financial assistance to qualifying new members of staff with the costs of relocating to Cambridge.

Accommodation Service

The University Accommodation Service helps staff, students and visiting scholars who are affiliated to the University in their search for suitable accommodation in Cambridge. The dedicated accommodation team can provide access to a wide range of University-owned furnished and unfurnished properties, and has a database of private sector accommodation available for short and long-term lets. For further information and to register with this free service please visit <https://www.accommodation.cam.ac.uk/>



What Cambridge can offer

We offer a comprehensive reward package to attract, motivate and retain high performing staff at all levels and in all areas of work.

The University offers a wide range of competitive benefits, from family leave entitlement, to shopping and travel discount schemes. Our generous annual leave package contributes to the positive wellbeing of our University employees. Sabbatical leave enables academics to focus on research and scholarship, whilst still maintaining their full salary. The University also has a [career break scheme for academic and academic-related staff](#), with additional flexible working policies for all other staff.

Pay and benefits

The University salary structure includes automatic service-related pay progression in many of its grades and an annual cost of living increase. In addition to this, employees are rewarded for outstanding contribution through a number of regular pay progression schemes. The University offers attractive pensions schemes for employees, with an additional benefit of a salary exchange arrangement providing tax and national insurance savings. Payroll giving is also a simple, tax-efficient way for employees to make monthly donations to charity.



CAMbens employee benefits

We offer a CAMbens scheme for University employees, providing access to online and in-store shopping discounts and cashback. With more than 2,000 participating retailers, employees can save money on a wide range of household expenses, from groceries and clothes, to holidays and insurance and much more. A range of local discounts are also available, helping employees to save money whilst also supporting local Cambridge businesses and a CAMbens Cycle to Work salary sacrifice scheme is also available, which enables employees to save money on transport costs. A 10% discount rate on the [purchase of train season tickets, bulk buy tickets](#) and an interest free travel to work loan are also available for staff of the University.



What Cambridge can offer

Family-friendly policies

The University recognises the importance of supporting its staff. We have a range of family-friendly policies to aid employees' work-life balance including a generous maternity, adoption and shared parental leave entitlement of 18 weeks full pay and emergency family care support via My Family Care.

Other family-friendly support includes:

Our highly regarded workplace nurseries, a childcare salary exchange scheme and a high quality holiday Playscheme may be available to help support University employees with caring responsibilities (subject to demand and qualifying criteria). Further childcare information can be found here:

<https://www.childcare.admin.cam.ac.uk/>

The Newcomers and Visiting Scholars Group is an organisation within the University run by volunteers whose aim is to help newly arrived wives, husbands, partners and families of Visiting Scholars and members of the University to settle in Cambridge and give them an opportunity to meet local people. The Office of Postdoctoral Affairs supports the postdoctoral community within Cambridge. Further details are available here: <https://www.opda.cam.ac.uk/>

Your wellbeing

The University's Sport Centre, Counselling Services and Occupational Health are just some of the support services available to University employees to promote their physical and mental wellbeing. There are many societies in Cambridge catering for almost every taste and interest. Whether you want to take part in a sport, participate in music or drama, pursue a hobby, or join a political group, you will almost certainly find that a society exists for this purpose. The University also hosts the [Cambridge Science Festival](#) and [Cambridge Festival of Ideas](#), as well as [Open Cambridge](#) weekend, which together attract over 50,000 visitors per year. The festivals are a great opportunity to get your first taste of public engagement, through volunteering, supporting hands-on activities or proposing a talk.

Development opportunities

We support new employees to settle in through various activities. The encouragement of career development for all staff is one of the University's values and we put this into practice through various services and initiatives. Our Personal and Professional Development Department provides development opportunities and courses for all University employees. These include face-to-face sessions, online learning modules and webinars. Employees may also apply for financial support to undertake training that will lead to a qualification. We offer reduced staff fees for University of Cambridge graduate courses and the opportunity to attend lectures and seminars held by University departments and institutions. The CareerStart@Cam programme also supports employees in assistant staff roles who do not hold higher education qualifications to develop their skills, experience and qualifications.



How to apply

Applications should be submitted online via the University of Cambridge jobs page www.jobs.cam.ac.uk by clicking “Apply online” in the job advert. You will need an email address to register for our online system.

Conversations about flexible working are encouraged at the University of Cambridge. Please feel free to discuss flexibility prior to applying (using the contact information below) or at interview if your application is successful.

Informal enquiries are welcomed and should be directed to:
Recruitment@uis.cam.ac.uk

If you have any queries regarding the application process please contact adminoffice@uis.cam.ac.uk, quoting reference **VC43714**.

The closing date for applications is **18 November 2024**.