

# Job Description and Person Specification

Last updated: 26/03/2024

## JOB DESCRIPTION

Post title:	<b>Research Fellow – Age Verification/Biometrics (KTP Associate)</b>		
Standard Occupation Code: (UKVI SOC CODE)	2119 - Natural and social science professionals		
School/Department:	School of Electronics and Computer Science		
Faculty:	Faculty of Engineering and Physical Sciences		
Career Pathway:	Education, Research and Enterprise (ERE)	Level:	4
*ERE category:	Research pathway		
Posts responsible to:	Knowledge Base Team, University of Southampton; Company Supervisor, Ingenium Biometric Laboratories		
Posts responsible for:	N/A		
Post base:	Office-based		

Job purpose
<p><b>Knowledge Transfer Partnerships</b></p> <p>Knowledge Transfer Partnership (KTP) is one of Europe’s largest graduate recruitment programmes providing candidates with exciting opportunities to work on key strategic projects. More information about KTPs and the many benefits of being a KTP Associate can be found on the KTP website at <a href="http://www.gov.uk/guidance/knowledge-transfer-partnerships-what-they-are-and-how-to-apply">www.gov.uk/guidance/knowledge-transfer-partnerships-what-they-are-and-how-to-apply</a>.</p> <p><b>The Role</b></p> <p>Age estimation technology (AET) is used to verify the age of people by analysing facial characteristics. AET can be used to estimate age in different contexts: over 18 for age-restricted purchases and services, under 18 for youth-focussed social media and a wide range of other use cases. It is essential that AET products can be demonstrated to be accurate.</p> <p>The project will develop a software framework for testing age estimation technology (AET), including the development of comprehensive test databases, software tools to analyse results and generate statistics from testing, and to provide standardised interfaces for different products in an automated test framework. This will allow efficient and effective evaluation of AET and be a vital step in allowing a wide range of organisations to meet statutory requirements when deploying AET as a means of safely verifying customer suitability for age-restricted services.</p> <p>The test framework will encompass presentation attack testing, physical testing with various subjects, wearables, and extensive automated testing through running a large image database of diverse respondents and their relevant age data through the AET system to establish accuracy.</p> <p>Successful delivery of the project will enable Ingenium to add a new capability to the business and respond to a rapidly emerging need in the market, that is being driven by commercial and statutory pressures for organisations to verify the age of their consumers and users.</p> <p>We are seeking a KTP Associate with a strong background in computer science, engineering or a related discipline (with particular strengths in security and biometric technologies) to develop the proposed AET</p>

testing framework. The Associate position will be based in Canterbury and be supervised by Dr Chris Allgrove from Ingenium Biometric Laboratories and Professor Richard Guest, University of Southampton.

Key accountabilities/primary responsibilities	% Time
1. Work for the KTP project led by the University of Southampton and Ingenium Biometric Laboratories:	
<ul style="list-style-type: none"> <li>Undertake research to define a testing methodology for the assessment of AET systems</li> </ul>	40%
<ul style="list-style-type: none"> <li>Develop software framework for the assessment of AET systems</li> </ul>	50%
<ul style="list-style-type: none"> <li>Communicate the outputs of the KTP to Ingenium's key stakeholders</li> </ul>	5 %
2. Any other duties as allocated by the line manager following consultation with the post holder	5 %

#### Internal and external relationships

**Internal:** The Associate will be based in Canterbury and be supervised by the business supervisor Dr Chris Allgrove from Ingenium Biometric Laboratories and the academic supervision team led by Professor Richard Guest from the University of Southampton. The Associate will be an integral part of Ingenium's activities. The Associate will meet with both supervisors at least once per week. LMC meetings will be held every four months to monitor project progress and will provide the Associate with the opportunity to update the whole KTP team on the project's progress.

The Associate will receive a full company and University of Southampton induction and have access to staff training at the University of Southampton. The Associate will also visit the Knowledge Base Partner at its Canterbury campus during the project for additional supervision.

**External:** Researchers in chosen field, learned societies and the company's clients.

#### Special Requirements

*Applications for Research Fellow positions will be considered from candidates who are working towards or nearing completion of a relevant PhD qualification. The title of Research Fellow will be applied upon successful completion of the PhD. Prior to the qualification being awarded the title of **Senior Research Assistant** will be given.*

## PERSON SPECIFICATION

Criteria	Essential	Desirable	How to be assessed
Qualifications, knowledge and experience	<p>A PhD, or close to completion, in image processing, biometrics, security, machine learning or a related discipline, or equivalent qualification/experience</p> <p>At least a BSc/BEng 2:1 in computing, engineering, physics or mathematics/statistics or equivalent</p> <p>Experience of robust software development</p> <p>Knowledge of methodologies and advanced algorithms in mathematics, computing and statistics/machine learning</p> <p>Knowledge of biometric technologies, computer imaging and statistical analysis methodologies</p> <p>Knowledge of handling large scale data and big data analysis</p>	Previous working experience with industry	Application/ Interview
Planning and organising	Proven time management skills, including managing project outputs and associated activities and work under pressure		Interview
Problem solving and initiative	<p>Ability to work independently and use initiative</p> <p>Ability to adapt and work creatively to resolve technical problems</p>		Interview
Management and teamwork	Ambition to work in a commercial environment and ensure commercial success of the project		Interview
Communicating and influencing	<p>Excellent communication skills, including the ability to write for publications, present research proposals and results to non-scientific audiences, and represent the research group at meetings</p> <p>Excellent interpersonal skills</p>		Application/ Interview/ Presentation
Other skills and behaviours	Strong Programming skills in Python or C++		Application/ Interview

## JOB HAZARD ANALYSIS

### Is this an office-based post?

<input checked="" type="checkbox"/> Yes	If this post is an office-based job with routine office hazards (eg: use of VDU), no further information needs to be supplied. Do not complete the section below.
<input type="checkbox"/> No	If this post is not office-based or has some hazards other than routine office (eg: more than use of VDU) please complete the analysis below. Hiring managers are asked to complete this section as accurately as possible to ensure the safety of the post-holder.

## - HR will send a full PEHQ to all applicants for this position. Please note, if full health clearance is required for a role, this will apply to all individuals, including existing members of staff.

ENVIRONMENTAL EXPOSURES	Occasionally (<30% of time)	Frequently (30-60% of time)	Constantly (> 60% of time)
Outside work			
Extremes of temperature (eg: fridge/ furnace)			
## Potential for exposure to body fluids			
## Noise (greater than 80 dba - 8 hrs twa)			
## Exposure to hazardous substances (eg: solvents, liquids, dust, fumes, biohazards). Specify below:			
Frequent hand washing			
Ionising radiation			
EQUIPMENT/TOOLS/MACHINES USED			
## Food handling			
## Driving university vehicles(eg: car/van/LGV/PCV)			
## Use of latex gloves (prohibited unless specific clinical necessity)			
## Vibrating tools (eg: strimmers, hammer drill, lawnmowers)			
PHYSICAL ABILITIES			
Load manual handling			
Repetitive crouching/kneeling/stooping			
Repetitive pulling/pushing			
Repetitive lifting			
Standing for prolonged periods			
Repetitive climbing (ie: steps, stools, ladders, stairs)			
Fine motor grips (eg: pipetting)			
Gross motor grips			
Repetitive reaching below shoulder height			
Repetitive reaching at shoulder height			
Repetitive reaching above shoulder height			
PSYCHOSOCIAL ISSUES			
Face to face contact with public			
Lone working			
## Shift work/night work/on call duties			