



# **Candidate Information Pack**

Technology Talent Register

AI, Machine Learning, Data  
Science & Analytics

Level 4 – EL1

## Position details

Title	AI, Machine Learning, Data Science & Analytics
Classification	L4-EL1
Location	Canberra & Adelaide
Salary Range	\$97,148 - \$169,572
Contact	Recruitment Phone: (02) 6261 1849
Closing Date and Time	Monday 19 <sup>th</sup> January at 23:59 AEDT

## About ASIS

The Australian Secret Intelligence Agency (ASIS) is Australia's overseas secret intelligence collection agency. Our mission is to protect and promote Australia's vital interests through the provision of intelligence services as directed by the Government. Our work can involve collecting intelligence relating to national security, international relations and economic issues. We also contribute to Australia's coordinated national efforts against terrorism, proliferation of weapons of mass destruction, and trans-national issues such as people smuggling.

Our strength is our people. ASIS officers come from all walks of life, with different skills, interests and backgrounds.

ASIS is a diverse and inclusive workplace, where our people are empowered through authenticity and a sense of belonging to achieve their potential and contribute to a shared purpose and mission. We seek to reflect the community we serve, and welcome applications from Aboriginal and Torres Strait Islander peoples, women, people with a disability, neurodiverse, people from culturally and linguistically diverse backgrounds and those who identify as LGBTIQ+.

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## The role

### AI, Machine Learning, Data Science & Analytics (Level 4—EL1)

Are you keen to design and develop world-class capabilities, turning data into knowledge and operational outcomes? Are you passionate about building solutions to allow data to tell its story? ASIS offers an opportunity to achieve these goals in an uncompromisingly unique environment. As a Data Professional in ASIS, you will have the chance to actively enable our operational teams to make the best use of ASIS's unique data assets.

ASIS leverages the wide world of open-source software and supplements it with our own development to deliver the bespoke tools required for the ASIS mission. Among our core languages are Python, Scala, Java, C++, Rust and JavaScript. Our toolset includes Spring, PyTorch, Tensorflow, Apache Spark, Apache Accumulo, Apache Hadoop, Apache NiFi, Apache Solr, Ansible and Git. We leverage structured and unstructured data, including geospatial and multilingual data sets of varying quality. Ideal candidates will be extraordinarily innovative, self-motivated and keen to use these toolsets to craft new systems that are simply not found in any other organisation.

If this sounds like an environment you could thrive in, then apply for one of these unique positions.

#### Application Levels

A Level 4 candidate would be expected to be new to the area and work under the guidance and supervision of a more senior officer.

A candidate at the Level 5 level would be expected to have one to two years real-world experience and will be working under some supervision.

A Level 6 level candidate would be expected to have more experience and operate with limited supervision within a core group of developers.

A candidate at the EL1 level is expected to have substantial experience, and some deep technical expertise. They operate entirely independently and have the capacity to fulfil leadership roles as required.

#### Specialisations

We have a number of positions available including:

- Data Scientists at Level 4 to EL1; and
- MLOps Engineers at Level 5 to EL1
- Machine Learning Scientists at Level 4 to EL1; and
- Applied Mathematicians at Level 5 to EL1

Please indicate in your application the role(s) and level(s) for which you would like to be considered.

Pay Ranges:

L4: \$97,148 – \$101,338

L5: \$105,013 – \$113,141

L6: \$116,245 - \$133,968

EL1: \$145,137 – \$169,572

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# Role responsibilities

## 1. Data Scientist (Level 4 – EL1)

Data Scientists in ASIS work directly with client areas to make the best use of ASIS's unique data assets and achieve operational impact. They train and deploy machine learning models on premises and at the edge to enrich data and find the right information as quickly as possible. They are highly motivated and work collaboratively with other technical specialists to evolve and improve existing data exploitation systems.

### 1.1. Key Responsibilities and Duties

As a Data Scientist in ASIS you will:

- Support customers to realise value from data through data wrangling, complex analysis and machine learning;
- Engage with customers to identify potential operational benefits from the application of data science, including identifying relevant data and analytic opportunities;
- Identify and implement relevant analytic tools and techniques; and
- Act as a leader to foster a data driven culture across the organisation and support business areas to achieve operational outcomes

### 1.2. Education, qualification and experience requirements

The following education, qualifications and/or experience will be highly regarded:

- A history of successfully applying of data/maths/stats expertise to solve real-world problems;
- Experience with standard Data Science libraries in your primary programming language such as (for Python) Pandas and Numpy alongside visualisation libraries such as Matplotlib, Seaborn, or Plotly;
- Experience in complex data analysis, machine learning model training & fine-tuning, and data wrangling; and
- Strong communication skills and a history of successful client engagements

Experience in the following would be beneficial, but not essential:

Level 4 and above

- Formal training in data science, computer science, mathematics, statistics, physics, engineering or similar quantitative discipline though exceptional self-taught candidates are encouraged to apply
- Experience in using Linux based operating systems

Level 5 and above

- Understanding of the trade-offs between different tools, approaches and algorithms, and a willingness to learn new tools and algorithms as necessary, and apply a 'best fit' to achieve outcomes in a timely manner
- Mentoring junior staff and/or students
- Experience working with Apache Spark and Hadoop based systems to achieve analytic outcomes
- Delivering outcomes as a member of a multi-disciplinary team

EL1

- Retaining deep subject matter expertise and practicing in your field whilst managing teams of technologists and/or complex stakeholder relationships.

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## **2. MLOps Engineer (Level 5 – EL1)**

As an MLOps Engineer in ASIS, you'll lead the development and implementation of Machine Learning and MLOps solutions. You'll work with other data professionals to establish and maintain best practices for ML model training, storage, and deployment focusing on repeatability and maintainability. Your expertise will be crucial in ensuring our ML systems are efficient, scalable, and reliable. You will work with an on-premise GPU compute stack from infrastructure to application layer.

### **2.1. Key Responsibilities and Duties**

As an MLOps Engineer in ASIS you will work within the Data Science team with a highly-skilled team of data professionals to deliver mission impact from available data. You will be expected to:

- Collaborate with data scientists and data engineers to build and maintain best practices for ML model training, storage, and deployment.
- Engage with customers to identify potential operational benefits from the application of data science, including identifying relevant data and analytic opportunities;
- Provide specialist advice and technical guidance to data science and data engineering teams, ensuring adherence to best practices and relevant policies.
- Independently learn and develop new skills with emerging MLOps techniques, and apply them in practical ways to improve our ML systems.
- Contribute to planning, procurement, commissioning and configuration management of GPU computing hardware.
- Communicate regularly and pre-emptively with peers and colleagues to keep everyone informed.

### **2.2. Education, qualification and experience requirements**

The following education, qualifications and/or experience will be highly regarded:

- Formal training, such as a bachelor's degree in a relevant field such as computer science or software engineering, or equivalent
- Experience working and succeeding as a software or data engineer in industry, government, intelligence or research institutions
- Demonstrated independent drive to succeed in a small, tight-knit team
- Excellent verbal and written communication skills

Experience in the following would be beneficial, but not essential:

Level 5 and above

- Working with on-premise GPU accelerated compute

Level 6 and above

- Specific on-premise MLOps tooling experience such as MLFlow, Ray, Flyte, KubeFlow, Kserve or an enterprise scale machine learning platform.
- Automation of large-scale deployments using Ansible

EL1

- Retaining deep subject matter expertise and practicing in your field whilst managing teams of technologists and/or complex stakeholder relationships.





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### **3. Machine Learning Scientist (Level 4 – EL1)**

Machine Learning (ML) Scientists in ASIS, lead the development and implementation of Machine Learning models and solutions. You'll work with other data professionals and MLOps engineers to curate training and testing datasets, design model architecture, train and finetune ML models, and deploy and monitor your ML solutions. Your expertise will be crucial in ensuring our ML based services remain at the cutting edge of performance and produce reliable, dependable, and accurate results.

#### **3.1. Key Responsibilities and Duties**

As a Machine Learning Scientist in ASIS you will work within the Data Science team with a highly-skilled team of data professionals to deliver mission impact from available data. You will be expected to:

- Collaborate with customers to determine their ML related needs and requirements and pragmatic in selecting the most effective solutions to customer needs which may not always be ML related;
- Collect, curate, and manage training and testing datasets;
- Design and train new ML architectures or finetune existing architectures to solve real world problems; and
- Maintain a broad knowledge of ML best practices whilst independently learning and developing new skills with emerging techniques, and applying them in practical ways to improve our ML systems.

#### **3.2. Education, qualification and experience requirements**

The following education, qualifications and/or experience will be highly regarded:

Level 4 and above

- Formal training in computer science, machine learning, software engineering, or related field
- Experience using suitable programming languages (such as Python) to train and evaluate machine learning models
- Experience with standard machine learning libraries in your primary programming language, such as (for Python) pytorch or tensorflow.

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Level 5 and above

- Familiarity with working with Linux based operating systems
- Understanding the trade-offs between different tools, approaches and algorithms, and a willingness to learn new tools and algorithms as necessary, and apply a 'best fit' to achieve outcomes in a timely manner

Experience in the following would be beneficial, but not essential:

Level 5 and above

- Working with on-premise GPU accelerated compute
- Optimisation of models with one of the following high performance frameworks: HuggingFace Candle, OpenVino, TensorRT, FasterTransformers, Onnx.

EL1

- Retaining deep subject matter expertise and practicing in your field whilst managing teams of technologists and/or complex stakeholder relationships.

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## 4. Applied Mathematician (Level 5 – EL1)

As an Applied Mathematician in ASIS, you will focus on solving difficult entity resolution issues in large distributed and graph-based data stores. You'll work with data professionals to identify areas in large structured and unstructured data stores where mathematical approaches can lead to improved data enrichment and efficiencies. Your expertise will be crucial in ensuring the structured and unstructured data stores remain fit for purpose as they continue to scale.

### 4.1. Key Responsibilities and Duties

As an Applied Mathematician in ASIS you will work within the Data Science team with a highly-skilled team of data professionals and scientists to deliver mission impact from available data. You will be expected to:

- Collaborate with data scientists and data engineers to identify issues that can be solved with an improved mathematical approach;
- Engage with customers to identify potential operational benefits from the application of data science, including identifying relevant data and analytic opportunities;
- Provide specialist advice and technical guidance to data science and data engineering teams, ensuring adherence to best practices and relevant policies;
- Keep on the cutting edge of research into efficient data search, storage, and enrichment methodologies; and
- Contribute to planning, procurement, commissioning and configuration management of high-performance distributed computing hardware.

### Education, qualification and experience requirements

The following education, qualifications and/or experience will be highly regarded:

- Formal training in mathematics, computer science, statistics, or related field of computational science.
- Experience using suitable programming languages (such as Python, Scala, Java or C++) to develop and evaluate advanced optimisation algorithms;
- Strong problem-solving and communication skills and a passion for staying updated on industry trends

Experience in the following would be beneficial, but not essential:

Level 5 and above

- Previously solved large scale entity resolution challenges
- Experience working with on-premises high performance compute
- Experience in large graph or network-based analytics
- Experience working with Apache Spark and Hadoop based systems

EL1

- Retaining deep subject matter expertise and practicing in your field whilst managing teams of technologists and/or complex stakeholder relationships.

## Benefits of working at ASIS

ASIS employees enjoy access to generous workplace terms and conditions. Benefits include but are not limited to:

- Competitive salary plus 15.4% superannuation
- A variety of leave options including 22 days paid annual leave per year
- Paid leave between Christmas and New Year
- Domestic Relocation assistance for new staff to Canberra
- Health and wellbeing initiatives
- Salary packaging arrangements
- Learning and development opportunities including access to study assistance
- A variety of support services including but not limited to Employee Assistance Program (EAP) and a Staff and Family Support Office.

Whilst ASIS officers are not able to work from home due to the classified nature of our work, staff have access to a range of flexible working arrangements. These include part time hours, condensed hours and/or flexible start/finish times to support other responsibilities.

ASIS conditions of service are similar to those applying for the Australian Public Service, for a full list of benefits and conditions see [asis.gov.au](https://asis.gov.au)

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## Eligibility

To be eligible for a role you must:

- Be an Australian citizen
- Be assessed as suitable to hold and maintain the relevant security clearance
- For more information on eligibility please see the Protective Security Policy Framework which is publicly accessible at [protectivesecurity.gov.au](https://protectivesecurity.gov.au), section 12 provides information on Eligibility and suitability

## How to apply

Click on “Apply Now” on our website on the role/s that you are applying for. You will be required to submit the following:

- 500-word pitch outlining your skills and experience for the role
- A current CV, no more than 2 pages in length, outlining your employment history, academic qualifications and relevant training that you may have undertaken
- Details of two referees, which must include a current supervisor

Applicants are encouraged to consider the Integrated Leadership System (ILS) capabilities when preparing their application. For more information on the ILS, and tips for applying for jobs in Australian Public Service, please visit the APSC website found at [www.apsc.gov.au](https://www.apsc.gov.au).

All applications for employment with ASIS are handled in the strictest confidence. It is essential you maintain a similar level of confidentiality and that you do not discuss your application with anyone.

## Reasonable adjustments

ASIS is committed to fostering a diverse and inclusive environment for candidates to participate in all stages of the selection process. Please let us know if you require any additional assistance or reasonable adjustments during any stage of the recruitment process and we will work with you to manage this throughout. If you are successful in gaining employment, reasonable adjustments can also be made available to you in performing your role.

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## Recruitment process – what happens next

We thank all applicants for their interest in a role with ASIS. Please be advised that our selection process is rigorous and extensive and that we do not provide feedback to unsuccessful applicants. **If you progress from application, you will receive an SMS requesting you to complete online testing – please ensure that you complete this testing or your application will not progress further.**

All selection process decisions are merit based and candidates must be prepared to undergo various selection stages throughout the process.

A merit pool will be established for candidates who are suitable for this round and will remain valid for 18 months.