Google DeepMind Research Ready

Research placements in artificial intelligence (AI)

Request for proposals and applicant guidance notes
Deadline: **26 September 2024, 16.00**

Supported by our founding sponsors Google DeepMind and the Hg Foundation

Contents

1. Introduction

The Academy is deeply committed to improving diversity and inclusion in the engineering profession. Our strategy includes specific goals to boost the numbers and diversity of those entering engineering careers and to promote and expand the use of innovative approaches and best practice in engineering education and training.

The Academy is partnering with **Google DeepMind** and the **Hg Foundation** to provide the Google DeepMind Research Ready scheme. This is a positive action initiative aimed at undergraduate students from socio-economically disadvantaged backgrounds and underrepresented groups in engineering. This programme will fund research placement opportunities for eligible undergraduate students in the summer of 2025. It aims to tackle underrepresentation within the AI discipline by increasing the transition of diverse students into employment, and to expose them to the engineering research world.

It aims to build a sense of community and belonging among students, while building their knowledge of advanced-level AI degrees and careers. It allows researchers to develop inclusive leadership skills and gives them access to research support and insight from a new generation of engineering talent. This programme addresses some of the issues and barriers these underrepresented student groups face when progressing to advanced-level degrees, which include (but are not limited to) the following:

- **A lack of AI research experience**: research experience is critical but difficult to find (usually via family or friends) and is usually unpaid which acts as a blocker for those from low socio-economic backgrounds, those with other responsibilities or those who do not have the networks or confidence to acquire these opportunities. Those at less research-intensive universities particularly struggle.
- **A lack of knowledge and guidance of advanced-level degrees**: information and guidance about postgraduate research applications, finance and the research environment is not democratically available and is difficult and complicated to navigate.
- **A lack of information about career pathways**: knowledge about career progression and salaries is essential, especially for certain groups of students. However, it remains largely unknown, even for those completing PhDs.
- **Research culture and sense of belonging**: within academia there are inconsistent inclusive application and supervision practices that can lack a nurturing environment. Students can feel isolation and lack opportunities to engage in the wider community.

2. Programme overview

This programme will fund research placement opportunities for eligible undergraduate students in the summer of 2025, to be hosted at selected universities. Please refer to section three for more information on host and student eligibility criteria and to section nine for more information on proposal guidelines and requirements.

Stage 1: the Academy will open a call for proposals in August 2024. Host university proposals must contain details of an undergraduate research placement programme in AI for the summer of 2025. These proposals will be reviewed by a panel and successful

university host applicants will receive funding to deliver their proposed research programme.

Stage 2: once awarded, successful university hosts must organise:

- the outreach and recruitment of research supervisors at their institution that will deliver their proposed research placement programme
- the call for external student applications, review, and selection of students
- issuing of awards to students, drafting appropriate placement agreements with them, and providing training.

Stage 3: Research Ready placements take place in the summer of 2025, concluding with a celebration event in September 2025.

Please refer to section six for a detailed breakdown of the programme delivery timelines and deadlines.

3. Eligibility criteria

Eligibility criteria for hosts

To apply, university placement hosts must ensure that they meet the following criteria:

- The university must have a computer science department, or an equivalent department/school that can accommodate the requirements of the proposal. The purpose of this programme is to complement the work university partners are already delivering to encourage more undergraduate students from eligible groups to continue to graduate-level programmes and enhance research and scholarship in these research placement areas.
- Proposals must be primarily focused on artificial intelligence (AI) and machine learning, though they can include applicability to other disciplines.
- Hosts must be able to accommodate students in the summer of 2025 for six to eight weeks. All placements without exception will take place in the summer of 2025, between June and 1 September 2025.
- Hosts must provide the placement students with the appropriate supervision, training, and a meaningful project for them to work on. Please refer to section nine for the proposal guidelines.
- Hosts must be willing to cooperate on the evaluation of the programme, including sharing aggregate data on the demographics of student applications and acceptances.

Eligibility criteria for students

This programme is primarily designed for undergraduate students from socio-economically disadvantaged backgrounds. However, depending on the demographics of the university's student body, universities may broaden the eligibility criteria to include other underrepresented groups, such as (but not limited to) women, and individuals from Black, Asian and minority ethnic backgrounds.

As a minimum requirement, universities must include the following student eligibility criteria in their student application forms:

Essential criteria (all required)

- A resident in the UK and eligible to pay UK home fees.
- Have, or expect to have and be able to prove right to live and work full time in the UK for the duration of the programme.
- Are within the penultimate year of their undergraduate degree or have already completed an undergraduate degree in computer science, or AI facilitatory-related technical field.
- Is not currently studying or has studied a master's or PhD.

Socioeconomic criteria (at least one required)

- Have been eligible for free school meals.
- Lives in an area in the lowest two deciles according to a postcode measure such as IMD or POLAR.
- Have at some stage been in local authority care.
- Be in receipt of full state support for maintenance for their course of undergraduate study.

4. Duration

Proposals must outline a six to eight week undergraduate research placement programme for summer 2025. The Academy will provide funding to each successful university host, which must be used to plan and deliver their proposed programme.

5. Funding guidelines

Across universities, we will standardise some costs including:

- The student stipend: £400 per student per week.
- Student travel £225 per student to cover the entire placement.
- The costs of events and activities: £250 per student to cover the entire placement.

In addition, we will provide universities with the accommodation costs (per student) and administration cost to plan and deliver the programme. In your proposal, please provide us with the cost of the programme including the stipend, travel and events costs.

6. Timelines and submission deadline

The following timeline acts as an initial guidance for proposals, contracting and programme delivery. The **deadline** for all proposals is **26 September 2024**.

Key event	Description	Start date	Deadline/ end date
Academy's request for proposals open	Open for applications. Eligible universities are invited to submit proposals.	1 Aug 2024	26 Sep 2024
Review period	All proposals will be reviewed by a panel of experts which will include at least one Academy Fellow.	30 Sep 2024	23 Oct 2024

Awards confirmed	The Academy will inform all university host applicants on the outcome of their proposal.	w/c 4 Nov 2024	NA
Agreements circulated for hosts signature	Agreements will need to be signed by representatives of the university and the Academy for them to be finalised.	w/c 7 Nov 2024	12 Dec 2024
Universities announce their award and request project proposals from Academics	Universities can announce their award as early as November, depending on the time needed for signing agreements. Once announced, they will open an internal call for research proposals from academics. During this period, universities must also finalise student applications and outreach.	Dec 2024	Jan 2025
Universities open a call for student applications	This can happen as early as December depending how long it takes the university to process the agreements and recruit researchers to deliver their proposed research programme.	Jan 2025	Mar 2025
Review period for student applications	Universities will review all student applications and select successful applicants. A Fellow of the Academy must be part of the final decision-making process.	Mar 2025	Apr 2025
Workshops	Details will be confirmed post award.	May 2025	NA
Research placements take place	Placements start in June and end six to eight weeks later or before 2 September 2025.	w/c 2 Jun 2025	Aug 2025
Celebration event	Students attend a celebration event.	Sept 2025	

7. Additional programme details

Field of research and student placement numbers

Proposals must focus primarily on the fields of AI and machine learning, though they can include applicability to other disciplines. We would like to encourage universities to be creative and deliver a programme that works and builds on the strength and capacity of their staff and students as well as delivering maximum value to the undergraduate participants. We anticipate that universities will offer between 10 and 12 student placement opportunities each. However, if the budget permits, universities may be approached post-award to confirm if they can accommodate more students.

Student application process and outreach

University hosts will be responsible for the application and selection process of the undergraduate students and the placement supervisors.

- **Placement supervisors**: following a review, university applicants will be notified of their proposal outcomes in November 2024. Universities must then begin recruiting researchers to supervise and deliver the summer placement project and start the student application process. Timelines will vary by university; therefore, universities may start to recruit research supervisors as early as November 2024 depending how long agreements take to sign. Please refer to section six for a full breakdown of the timelines.
- **Student outreach**: selected host universities must promote placement opportunities to appropriate audiences to attract applications. It is expected that students will be selected from the university's own student body and from other institutions. Universities are particularly are encouraged to target and select students from post-1992 institutions or from institutions outside of the Russell Group (which research highlights already have good access to research opportunities). Universities will be required to share data on the profile of both applicants and accepted students.
- **Student selection process and awards:** while the recruitment of researchers and students is left to the university's discretion, an Academy Fellow must be involved in the selection of the final list of students. Once the final student placements are selected by the university, the university host must make awards and relevant payments directly to the students.

Awardee Excellence Community

Involving a Fellow in the student selection process ensures that selected students will join the Academy's 'Awardee Excellence Community'. This community brings together awardees from various Academy programmes and disciplines to share their expertise, collaborate, and offer fresh perspectives. Members have opportunities to connect, learn from one another, and provide mutual support through events and online platforms. If successful, the Academy will provide recommended text for selected students.

Agreements

If you are successful, your funding will be awarded under the 'basic terms and conditions' found on the Academy's website. This agreement has been developed to ensure funding aligns with our Academy values, is used for the purposes for which it was awarded and is managed in compliance with our own funders' agreements, UK legislation and funding best practice.

All award funds will be paid directly to the university, without exception. The university is required to use the funding to implement their proposed placement programme and cover the expenses outlined in their application. Additionally, the university is responsible for drafting any necessary suitable placement agreements with the students.

8. Workshops and additional support

The Academy will convene an annual working group meeting and encourage universities to share challenges and best practice within the postgraduate research space. Further details will be confirmed post award.

9. Proposal guidelines

To ensure consistency and fairness in the application process, this section provides applicants with guidance on the content requirements for each proposal. Applicants should review this alongside the assessment criteria (found in section 12) to ensure their proposal is as comprehensive as possible. The following points serve as a starting point for applicants to consider when drafting their applications.

- **AI research placements and presentation:** each university will shape their own programme. For example, some universities might run a one-week lecture and workshop series. This may be followed by a seven-week research project with a supervisor to student ratio of 1:2. Other universities might run programmes where students participate in a research project together in small groups for six weeks, while others might organise for each student to work in a different research group for the duration of the placement programme. It is acknowledged that universities might need to engage a range of staff from graduate students to principal investigator and postdoctoral researchers to support students. At the end of the research placement programme, students might deliver a poster presentation (or similar) summarising their work and learnings.
- **Skills development:** in addition to working on research placement projects, we encourage universities to also incorporate skill development into the programme. Examples might include data analysis, abstract writing, best practice for working in teams, how to socialise research, how to network, etc. These skills might be built into projects or delivered as part of separate workshops.
- **Community building activities:** we know that building a sense of belonging is key to any experience and universities are encouraged to also organise activities to promote a positive research culture and wellbeing. These might be delivered at the start to welcome students and may be ongoing to nurture a sense of community and belonging in the cohort.
- **Accommodation and student funding:** as students will not necessarily be from the host university, the donation will include expenses for each university to provide accommodation for the duration of the programme. Universities can distribute student stipends and travel costs in one lump sum (see details of donation below).

10. How to apply

All applications must be submitted via the Academy's online grants system, available here: https://grants.raeng.org.uk. All applicants must first register and provide some basic login details to create a profile.

The application should be submitted by the primary contact person for this proposal. We recommend leaving plenty of time to complete the application form ahead of the deadline and thoroughly going through your application prior to submission. While the

guidance notes are embedded within the system itself, we recommend you keep this document to hand when completing the application form. Many of the questions have prescribed word limits which are designed to keep your answers focused and indicate the level of detail we require. In such cases, the number of words you have used will be displayed beneath the question and updated in real time.

Applicants can download a PDF of their application after submission, which is recommended for reference. There is only one application stage and those meeting the eligibility criteria will enter the assessment stages.

Supporting information

You will need to provide the following supporting information. Guidance on the content could be found under Section 11.5 of the application.

- Applicant declaration

To ensure that all applicants are treated fairly, and the Academy's standards and values are upheld, applicants should be aware of our wider policies and practices as they apply to their application. Please refer to Annex A for more information.

11. Application form

After logging into the online grants management system and selecting 'Research Ready' in the 'Start application' section, you should be presented with the 'Instructions' screen.

Here you will see some general instructions on how to use the system, as well as links to each of the six sections of the application form given below:

- Applicant and institution details
- Research placement details
- Case for support
- Funding requested
- Applicant declaration
- Marketing

At any stage in the application process, you can save your work and return to it later. You can answer the questions in any order you like, so you may skip some sections to return to later if you wish. We recommend viewing the application early on to understand what is required. You should also ensure that you have all the necessary documentation to hand when you start completing the application.

11.1. Applicant and institution details

Q. Applicant name and contact details

Please note that this application should be submitted by the primary contact person for this proposal.

Please provide your name, current job title and contact details including postal address and a telephone number. Some of your details and those of your institution should be automatically generated by the system, as you provided these at registration. Please ensure the contact email address is correct and will be valid for the entirety of the

application process as this will be the main method of communication for your application.

11.2. Research placement details

Q - Placement start date:
Please enter your proposed project start date. All projects must start on or after 1 June 2025.

Q - Placement end date:
Please enter the expected end date of the project. All projects must end on or before 1 September 2025. Please note that projects must last between six to eight weeks in total.

Q - Maximum hours per week required per student placement:
Please indicate the maximum number of hours per week that the students will be required to commit to the programme.

11.3. Case for support

Q - Student demographics:
What are the student demographics of the university department that will be hosting the placements? Please provide details of the current socio-economic status, gender, and ethnicity representation of the departments UK domiciled undergraduate and/or postgraduate research students. Please try to break ethnicity down and move away from grouping Black, Asian and minority ethnic (BAME) students.

Suggested word count, 150 words.

Q – Student numbers:
What is the maximum number of student placements that you will you be able to accommodate? We anticipate that universities will offer between 10 and 12 student placement opportunities each.

Q - Student selection criteria:
What student criteria will you use to select students? With high application numbers, please describe how you intend to select students.

Suggested word count, 200 words.

Q - The programme:
Please describe the programme you plan to deliver. Please include details on how you will administer it, organise accommodation, the research experience duration, what the research experience will look like, and details of any workshops you will run (such as a session or event at the end of the programme to summarise the students work and learnings). This section should explain how this programme aims to integrate AI into the overall experience.

Suggested word count, 600 words.

Q - Building a sense of belonging:
Describe how you will ensure an inclusive experience for the students and build a sense of community and belonging. Please include details of any knowledge of postgraduate access programmes.

Suggested word count, 200 words.

Q - Outreach and promotion:
What outreach plan would the university have in place to encourage applications from the eligible underrepresented undergraduate students? Please note how and where you would advertise this opportunity, in particular to reach students from other universities. Please also provide details when you would anticipate launching the call for student applications.

Suggested word count, 150 words.

Q - Programme success:
How do you define the success of the programme? Please detail how your proposal will forward the two key aims of the programme: to increase progression to AI-related advanced degrees and careers. Please provide details on the programme's structure and the rationale behind its setup and how it's designed to positively impact students.

Suggested word count, 200 words.

Q - Challenges:
What challenges, if any, do you foresee with running the programme and how do you plan to overcome them? What, if any, are some anticipated blockers/time delays in achieving the timeline specified above and how would you overcome them? In this section you may wish to provide information on the expertise of the project team and reference any relevant experience the university has delivering similar programmes.

Suggested word count, 200 words.

Q – Support from the Academy and its partners':
Is there any additional support that the Academy and its partners can provide to add value to the student placement experience?

Suggested word count, 100 words.

11.4. Funding requested

Q - Programme costs:
In your application, please complete the table below to provide the cost of your proposed programme. Enter the duration of your programme (in weeks) and the maximum number of placements to automatically calculate the standardised costs. You will need to manually calculate the variable costs based on the breakdown provided below. Please ensure that the duration and total number of student placements is consistent with the information you provided previously in your application.

Standardised costs: to ensure fairness and consistency across universities, the following costs are fixed:

- The student stipend: £400 per week per student.
- Student travel: £225 per student to cover the entire placement.
- The costs of events and activities: £250 per student to cover the entire placement.

Variable costs: these costs will vary by university. Eligible costs include:

- Student accommodation: no more than 56.5% of the standardised costs total.

- Administrative expenses: no more than 27% of the standardised costs total.

Table A (below) is an example of the table that will appear in the grants management system. It also provides an example of how costs can be calculated for an 8-week placement programme for 12 students which is the maximum that universities can apply for.

Table A - programme costs:

Cost items	Duration	No. Placements	Type of cost	Totals
Student stipend	8	12	Standardised	**£38,400.00** (£400 x 8 weeks x 12 placements)
Student travel			Standardised	**£2,700.00** (£225 x 12 placements)
Student activities and events			Standardised	**£3000** (£250 x 12 placements)
Student accommodation			Variable	**£24,916.50** (56.5% of the standardised costs total)
Administrative expenses			Variable	**£11,907.00** (27% of the standardised costs total)
Standardised costs total				**£44,100.00**
Variable costs total				**£36,823.50**
Grand total/ Funding requested				**£80,923.50**

11.5. Applicant declaration

Q – Applicant declaration
On behalf of the host institution, I can confirm that I have read and accept the application guidance and other information regarding this award scheme, which is provided on the Royal Academy of Engineering's website. I confirm here and by submitting this application that:
- All information is accurate at the time of submission.
- The ideas presented are my own and not plagiarised or containing IP that is not owned by myself.
- All contributions have been appropriately referenced or credited including the use of any online tools such as AI generative tools used in developing my application.

- I understand that failure to cite and declare references or sources will result in my application being removed from the process.
- I understand that my application and any content including IP shared within will be shared with reviewers as part of our application process.
- I have the express permission of any individuals whose contact details I have shared as part of this application process, to share these details with the Royal Academy of Engineering.

11.6. Marketing

How did you hear about this scheme? This question is optional but helps us to understand which marketing materials are most successful at reaching the academic community to improve future communications work.

12. Assessment of proposals

Proposals will be reviewed and scored in line with the matrix detailed in Table B below:

Table B

Section	Review criteria	Questions that address the criteria
Programme and student experience	- Evidenced and good rationale for student selection criteria. - Quality of response in terms of programme content. This Includes, insight into AI research, knowledge of postgraduate access programmes and how the institution will build a student focused programme that promotes a sense of belonging,	- Student demographics. - Student selection criteria. - The programme. - Building a sense of belonging.
Delivery and administration	- Clear project plan with identified risk and mitigations in place. - Expertise of the project team and/or ideas for involvement and role of administrator support. - Delivery process is clear with rationale to support the proposed programme and amount of funding put towards administration. - Depth of understanding on how to reach underrepresented students, especially from other universities. - Quality of insight into risks and challenges with the programme delivery. - Experience of successful delivery of similar programmes. - Good understanding on how the Academy might be able to support the initiatives.	- Placement start date. - Placement end date. - Maximum hours per week required per student placement. - The programme: - Outreach and promotion. - Challenges.
Impact	- Clear articulation behind why the programme is set up in a specific way to make a positive impact to students. - Good reasoning for programme structure and associated impact.	Programme success.

Cost and value	• Clear overview of costs and pricing. • Offers good value in terms of the programme and depth of the engagement.	• Programme cost. • The programme. • Building a sense of belonging.

Successful applications will be selected at the Academy's discretion. All applicants will be informed of the outcome of their application in November 2024. Please refer to section six for a detailed breakdown of the programme delivery timelines and deadlines.

13. Contact details

If you have any questions, please contact the Royal Academy of Engineering's research programmes team at research@raeng.org.uk.

14. Annex A: application relevant policies

National security: the Academy is the UK's National Academy for engineering and technology and seeks to increase the potential positive benefit that innovations can have for society, while reducing the risks of harm. Hence, in all our activities, we seek to minimise the risk that technology developed as part of work that we support could be misused by a foreign state to build a capacity to target UK interests in a hostile fashion or to control or repress their population. There is a risk that for some grant activities, failure to protect IP and a lack of due diligence into collaborators could result in sensitive technology being transferred to and misused by a hostile or repressive foreign state. As such all applicants must ensure they are familiar with the Academy's National Security Risks Policy.

Use of generative AI tools in funding applications and assessment: the Academy has aligned with other UK funders around the use of generative AI tools in funding applications through the Research Funders Policy Group joint statement. Regarding the use of AI, applicants are fully responsible for all the content presented in their grant applications. The grant process does not penalise the use of generative AI tools, but it is imperative to ensure that the application reflects the applicants own voice and ideas. It is not acceptable to solely rely on generative AI tools to write the entire grant application from start to finish. While these tools may be used to assist in various aspects, the application must primarily represent the applicant's own work.

Applicants must provide clear acknowledgement if they have used generative AI tools in the process of writing their grant applications. This includes disclosing the name of the tool used and describing how it was used. The following style should be employed for referencing: "*I acknowledge the use of [insert AI system(s), version number and link] to generate materials for background research, styling, proofreading, etc*" Or, "*I acknowledge the use of [insert AI system(s), version number and link] to generate materials that were included within my final assessment in modified form.*"

Data Retention Policy: the Royal Academy of Engineering is committed to diversity and inclusion and welcomes applications from all underrepresented groups across engineering. It is the Academy's policy to ensure that no applicant is disadvantaged or receives less favourable treatment because of age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, or sexual orientation.

Before you commence your application, you will be asked a few diversity monitoring questions to help the Academy monitor and assess our diversity and inclusion policy. It will only be used for statistical purposes with access restricted to staff involved in processing and monitoring the data. No information will be published or used in any way that identifies individuals. The Academy will retain personal information as per our Data Retention Policy in line with the General Data Protection Regulations 2018.

The information will be treated as strictly confidential, will not be seen by anyone involved in any selection processes and will not be attributed to you. You will need to complete the diversity monitoring section before you can see the grant application form, but can choose "prefer not to say" as responses.