

**N**NATIONAL  
**R**RESEARCH  
**F**FOUNDATION  
PRIME MINISTER'S OFFICE  
SINGAPORE

**SINGAPORE NATIONAL RESEARCH FOUNDATION  
(NRF) FELLOWSHIP SCHEME FOR ARTIFICIAL  
INTELLIGENCE**

Application Guide

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# 1 Overview of the Singapore National Research Foundation (NRF) Fellowship Scheme for Artificial Intelligence (AI)

- 1.1 The Singapore National Research Foundation (NRF) Fellowship Scheme for Artificial Intelligence (AI) provides opportunities for early-career researchers to conduct independent AI research in Singapore.
- 1.2 Each Singapore NRF Fellowship provides a research grant of up to SGD 3 million, inclusive of general overheads (approximately USD 2.15 million<sup>1</sup>) over five years. The award is contingent on the awardee taking on a full-time appointment in an eligible host institution in Singapore.
- 1.3 An applicant should:
  - i. have excellent scientific credentials as an outstanding young researcher in his/her early stage of research career;
  - ii. be ready to take on an independent research appointment and preferably have completed a post-doctoral fellowship stint at a renowned university;
  - iii. submit an internationally competitive research proposal demonstrating scientific excellence and potentially impactful outcomes;
  - iv. have the potential and aspiration to become a next generation research leader in his/her field; and
  - v. be committed to carry out cutting-edge research on a full-time basis in Singapore, if selected.

## 2 Assessing your Suitability

- 2.1 To assess your suitability for the fellowship, NRF expects four critical questions to be addressed:
  - i. What research do you want to do in Singapore? What is your working hypothesis and how would this add value to the research eco-system?
  - ii. How does this research differ from your current lab group?
  - iii. Are you ready to lead and inspire your own research team?
  - iv. Do you demonstrate the ability to be independent in conducting ground-breaking research?

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<sup>1</sup> Based on the currency exchange rate of 1 SGD = 1.4 USD

- 2.2 Your application will be reviewed by an international selection panel, comprising eminent scientists. Shortlisted finalists, if based overseas, will be provided air fares (i.e. economy class) and other associated costs to facilitate the final interview in Singapore.

### 3 Eligibility

- 3.1 Outstanding researchers of any nationality, in the early stage of their research careers, who are ready to take on their independent research, are eligible to apply for the Singapore NRF Fellowship for AI.
- 3.1.1 PhD holders with research experience in AI or AI-related fields.
  - 3.1.2 Applicant must not be holding an Assistant Professor or equivalent position<sup>2</sup> at a local research institutions for more than 1 year at the point of submission (i.e. defined by grant call closing date);
  - 3.1.3 Applicant must not be at the RSE 3 level and above for more than 1 year at the point of submission (for A\*STAR applicants); and
  - 3.1.4 Applicant must not be a recipient of a similar early career award in Singapore.
- 3.2 The research grant provided under the Singapore NRF Fellowship Scheme for AI can only be used to fund AI research conducted in Singapore.
- 3.3 Research project proposals which are already funded or being considered for funding by other agencies in Singapore are not eligible for funding under the Singapore NRF Fellowship Scheme.
- 3.4 Please refer to the self-assessment checklist (Annex A) to further evaluate your eligibility for the Singapore NRF Fellowship for AI.

### 4 Application Process

- 4.1 All applications and supporting documents for the Singapore NRF Fellowship for AI scheme must be submitted through the Integrated Grant Management System (IGMS) at (<https://researchgrant.gov.sg>). Separate submissions outside of IGMS will not be considered.
- 4.2 Applicants will first need to register for a user account on the Integrated Grant Management System (IGMS).
- For local NRF Fellowship Applicants with a SingPass account, please register and login to the IGMS using **SingPass login**.

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<sup>2</sup> Equivalent position includes lecturers, research assistant professors and adjunct professors holding non-tenured position.

- For other NRF Fellowship Applicants without a SingPass account (e.g. international applicants), please register and login to the IGMS using **Custom Login**.
- 4.3 All attachments uploaded on IGMS as part of the Singapore NRF Fellowship application process must be clearly labelled to facilitate easy identification of the attachment's contents.
- 4.4 Applications which are incomplete (e.g. missing CV, registration form, research proposal, host institution's letter of support, or letter of reference) or not submitted by the specified deadline may not be considered. Please refer to Annex B for a checklist of documents that needs to be submitted for the application to be complete.
- 4.5 Please refer to the [IGMS Training Guide for Potential Applicants](#) (under "Help" section in IGMS) for more details on the application process.

## 5 Curriculum Vitae (CV)

- 5.1 Your curriculum vitae (CV), excluding the full publication list, should not exceed more than 2 pages. Please attach your updated CV as a supporting document in IGMS under "*Research Team, Collaborators, Referees > Research team*" section.

Your CV should include the following information in the following order:

- A recent photo
- Personal Particulars
- Academic qualifications (Indicate when and where the degree is awarded)
- Current and past employment history
- List of post-doc stints
- List of awards / grants
- List of industry-related research
- List of patents filed / granted and invention disclosure
- List of all publications (the publications should be arranged in ascending order and segregated by published journals, in press and conference proceeding. This should be attached as an annex to the CV.)

## 6 NRF Fellowship for AI Registration Form

- 6.1 To apply for the NRF Fellowship for AI, applicants will have to download the "NRF Fellowship for AI Registration Form" template in IGMS under "*Grant Call Details > Related Documents*" section. The completed registration form should be attached as a supporting document in the IGMS under "*Other Attachments*" section.

## 7 The Proposal

- 7.1 Please attach the full details of the research proposal to be funded by the NRF Fellowship grant, as a supporting document in the IGMS under “*Research Details > Research Proposal*” section. Your research proposal should focus on the research that you intend to carry out independent of your post-doctoral work.
- 7.2 Your research proposal has to convince the selection panels that your research is worthwhile and that you have the competence and plan to achieve the goals.

### Guidelines for a good proposal

#### **i. Articulate the “big problem” your research wants to solve**

- Is the problem significant? Will non-scientists be able to understand and appreciate the ideas in your proposal?
- Is the problem important? Would anyone care if you successfully solved it?
- What is the significant difference between the proposed research beyond your post-doctoral work?

#### **ii. Explain why you are qualified to do this research**

- Have you ever led a team to solve a scientific problem?
- Have your previous proposals been successful in securing competitive grants?
- Do you possess the technical skills necessary to solve the research problem?
- How will you use the funds from the research grant?

#### **iii. Be succinct**

- Our reviewers look at hundreds of research proposals every year. If they can’t “get” the main idea of your proposal within 15 minutes or the first 5 pages, your application will probably be rejected.

### Research Proposal Template

- 7.3 A well written proposal has certain elements in common and it is useful for candidates to include the following items in their proposal:

- (a) Title page
- (b) Table of contents
- (c) Executive Summary

#### Main body (should not exceed 8 pages)

- (d) Specific Aims
- (e) Reasons for wanting to do the research in Singapore; and where you intend to carry out your research
- (f) Background and significance

- (g) Research design and methods
- (h) Milestones and deliverables

Annexes

- (i) References, if any
- (j) Publication list
- (k) Industry-link research and patents / inventions list, if any

7.4 Applicants are required to follow the following format for the proposal layout:

| Page Format | Font Type | Font Size | Line Spacing | Alignment |
|-------------|-----------|-----------|--------------|-----------|
| A4          | Arial     | 12        | Single       | Justify   |

|                   |   |
|-------------------|---|
| Title page        | <p>The title should be clear, concise and free of jargon. It should describe, in plain English, what your research project is trying to achieve. If possible, make the title informative and memorable e.g.</p> <p><i>Weak : Regulation of K<sup>+</sup> Secretion in the CCD</i><br/> <b>Better : Mechanisms of Potassium Ion Regulation in the Cortical Collecting Duct</b></p> <p><i>Weak : CT vs MRI in Brain Disorders</i><br/> <b>Better : Computer Tomography (CT) Versus Magnetic Resonance Imaging (MRI) in the Diagnosis of Brain Disorders</b></p> |
| Table of contents | <p>Reviewers often need to get information from research proposals quickly, particularly if we are comparing one proposal with another. A good contents page helps us extract information painlessly.</p>   |
| Executive Summary | <p>The executive summary is a one page summary (approximately 300 words) that describes your research proposal. It should include a short paragraph describing the big problem that you plan to address in the proposal. For example, your first sentence might start: "The broad objective of the proposed research is . . ."</p>  |
| Aims/Objectives   | <p>This section of the proposal should state what you hope to achieve with this research. These aims should be clear and achievable. The research aims articulate the intended end results and the rest of your proposal should outline how you intend to do so.</p>  |

|  |   |
|--|---|
| <p>Reasons for wanting to do research in Singapore</p> | <p>Research is a global endeavor. Is there a compelling reason (aside from funding) why you would like to do your research in Singapore? Are there existing groups you can work with, perhaps in one of Singapore's research institutes and corporate R&amp;D centres? Are there companies in Singapore that could make use of your research?</p> <p>It would greatly enhance your proposal if you can show how your research can boost existing competencies in your choice of Host Institution in Singapore.</p>  |
| <p>Background and significance</p>                     | <p>Briefly sketch the background leading to the present research proposal, critically evaluate existing information, and identify specific knowledge gaps that this project can fill. This section has to answer two main questions:</p> <ol style="list-style-type: none"> <li>1. What has been done so far? (Background)</li> <li>2. Why is this research important and different from what others have done before? (Significance)</li> </ol> <p>Background provides the succinct context for your research while Significance raises interest to provide a compelling reason to fund this research.</p> |
| <p>Research design and method</p>                      | <p>The research design and method section is very important because it tells the selection panel how you plan to tackle your research problem. It will provide your work plan and describe the activities and equipment necessary to complete the project. The Method section should contain sufficient information for the reader to determine whether the methodology is sound. Any other information, such as the equipment needed and number of post-doctoral fellows / PhD students required can be included here.</p>   |
| <p>Milestones and Deliverables</p>                     | <p>Please state the concrete deliverables to be achieved at various scheduled milestones of your research project. This section should be used to highlight important outcomes that can be expected from the successful execution of the research proposal. It would also be useful if the milestones and deliverables can be tied to the <u>Aim/Objectives</u> stated earlier.</p>   |

## 8 Closing, Evaluation and Selection Process

### Closing

- 8.1 Interested applicants need to submit their application with the supporting documents by **19 December 2018, 3.00pm (GMT+8)** through the Integrated Grant Management System (IGMS).

- Applicants are also expected to upload a **Letter of Support** by the Faculty Dean / Head of Department or equivalent from their host institution of choice. This should be attached in the IGMS under “Other Attachments” section. This Letter of Support describes the level of commitment the host institution would provide to the candidate, contingent on their successful award. Interested applicants may contact potential host institutions in Singapore. Further details are in **Section 9**.
- Applicants must also arrange to have at least **three** but no more than five letters of reference submitted to NRF on their behalf. These letters should be sent confidentially by your referees directly via email to the National Research Foundation, Singapore ([NRF-SDE@nrf.gov.sg](mailto:NRF-SDE@nrf.gov.sg)) (paper copies will not be accepted). The referral letters should include assessment on your leadership potential, ability to independently carry out impactful research, and personal attributes. Please do not upload the referral letters into IGMS.
- Application may be rejected if above documents are not submitted by 19 December 2018, 12pm (GMT+8)

8.2 Please note that no individual feedback will be given at any stages of the selection process.

#### Final Interview

8.3 Selected candidates<sup>3</sup> for the Singapore NRF Fellowship, if not already based in Singapore, will be invited by NRF to Singapore in March 2019, for the final interview.

8.4 The results of the final selection will be announced within a month from the final interview session.

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<sup>3</sup> An international selection panel comprising academics and technologists may be formed to further shortlist the candidates that will be considered for the final interview.

## 9 Host Institutions in Singapore

Interested applicant may contact the following host institutions in Singapore to obtain a Letter of Support:

| Host institution                                     | Contact   |
|--|---|
| National University of Singapore (NUS)               | Prof Chen Tsuhan<br><a href="mailto:tsuhan@nus.edu.sg">tsuhan@nus.edu.sg</a>  |
| Nanyang Technological University (NTU)               | Prof Michael Khor<br><a href="mailto:MKAKHOR@ntu.edu.sg">MKAKHOR@ntu.edu.sg</a>   |
| Singapore Management University (SMU)                | Prof Robert Deng<br><a href="mailto:robertdeng@smu.edu.sg">robertdeng@smu.edu.sg</a>  |
| Singapore University of Technology and Design (SUTD) | Andy Chan<br><a href="mailto:andy_chan@sutd.edu.sg">andy_chan@sutd.edu.sg</a><br><br>Dr Tan Chun Chia<br><a href="mailto:chunchia_tan@sutd.edu.sg">chunchia_tan@sutd.edu.sg</a>                                   |
| Agency for Science, Technology and Research (A*STAR) | Dr Ei-Leen Tan<br><a href="mailto:Tan_Ei-Leen@hq.a-star.edu.sg">Tan_Ei-Leen@hq.a-star.edu.sg</a><br><br>Ms Elizabeth Liau<br><a href="mailto:Elizabeth_Liau@hq.a-star.edu.sg">Elizabeth_Liau@hq.a-star.edu.sg</a> |

# Frequently Asked Questions

## 1 General

### **Q1.1: What is the NRF Fellowship for AI?**

The NRF Fellowship Scheme for AI is an early career award, providing opportunities for outstanding young AI scientists from all over the world to perform independent AI research in Singapore. It provides a grant of up to SGD 3 million, inclusive of general overheads (approximately USD 2.15 million) over five years to enable the recipient to assemble and lead a small research team at a Singapore-based research organisation of choice. The 5-years research grant can be used to cover personnel, equipment and consumables costs.

### **Q1.2: I have applied for the NRF Fellowship before and was shortlisted to the final round of the interview. But I was not selected. Can I apply to the NRF Fellowship for AI?**

As the NRF Fellowship for AI is a thematic call within the NRF Fellowship, reapplication for finalists who have been invited for interviews under the NRF Fellowship scheme is not allowed, unless you have been instructed by NRF to resubmit your application.

## 2 Eligibility

### **Q2.1: Who is eligible for the NRF Fellowship for AI?**

The fellowship is open to all AI researchers of all nationalities, in their early stage of research careers. Please refer to Section 3 of the application guide and the self-assessment checklist (Annex A) to assess your eligibility.

### **Q2.2: I am a recipient for an early career award in another institution. Can I apply for the NRF Fellowship for AI?**

Applicants who are recipients of similar early career award will not be eligible to apply for the NRF Fellowship for AI.

### **Q2.3: I have not finished my PhD at the time of application – I will complete my PhD some time after the application closes. Can I still apply for the NRF Fellowship for AI?**

No. The NRF Fellowship for AI is open only to PhD holders.

### **Q2.4: I am currently working in one of the Singapore Institutes of Higher Learning (IHL). Am I still eligible for the NRF Fellowship for AI?**

If you are currently a post-doc at a Singapore IHL, you are eligible for the NRF Fellowship for AI as long as you meet all the eligibility criteria. Please refer to

Section 3 of the Application Guide and the self-assessment checklist (Annex A) for more details.

### 3 Application Process and Submission Procedures

#### **Q3.1: I cannot login to the IGMS. What should I do?**

Please refer to the general information under the “Help” section in the IGMS. For any other enquiries pertaining to the use of IGMS, or, queries pertaining to the IGMS Training Manuals, please contact the IGMS helpdesk at:  
Contact number: (65) 6556 8807 or (65) 6556 6971  
Email: [helpdesk@researchgrant.gov.sg](mailto:helpdesk@researchgrant.gov.sg).

#### **Q3.2: I cannot upload my attachment.**

Please check that your attachment is of the type txt, doc, pdf, zip or xls. It should be less than 4MB in size. Its name should not contain any special characters (e.g. &%!).

#### **Q3.3: I have completed the online IGMS application and submitted the supporting documents for the NRF Fellowship through the system. Do I need to send a hardcopy of my application to NRF?**

The online application constitutes a complete submission. Please do not send the hardcopy application to NRF.

#### **Q3.4: Where can I upload my supporting documents?**

CV: Please attach the updated CV in IGMS under “*Research Team, Collaborators, Referees > Research team*” section.

Research Proposal: Please attach the research proposal in the IGMS under “*Research Details > Research Proposal*” section.

Registration Form / Other documents: Please attach them as supporting documents in the IGMS under “*Other Attachments*” section.

#### **Q3.5: Do I need to submit the names of peer reviewers?**

No, instead of submitting the names of peer reviewers, we require you to arrange to have at least three but no more than five letters of reference submitted to NRF. These letters should be sent confidentially via email by your referees to the National Research Foundation, Singapore ([NRF-SDE@nrf.gov.sg](mailto:NRF-SDE@nrf.gov.sg)).

Each referee should be familiar with your research work and be able to comment on your track record and personal character. You should not

nominate relatives to be your referees. Examples of suitable referees include thesis advisor(s) and research collaborators.

**Q3.6: Do I need to submit the Host Institution Letter of Support on application?**

Applicants are required to obtain a Letter of Support by the Faculty Dean / Head of Department or equivalent from their host institution of choice, and this must be uploaded in IGMS. Please refer to Section 9 on the list of contact points.

**Q3.7: Will there be an extension of the closing date for the NRF Fellowship grant call?**

The NRF Fellowship call, will close on 19 December 2018, 3.00pm (GMT+8). You are advised to submit your application early. You may not be able to submit your application past the deadline. **The closing date and time will not be extended and late submission may not be accepted.**

## **4 Selection Process**

**Q4.1: Can you tell me more about the NRF Fellowship for AI selection process?**

Applicants for the NRF Fellowship for AI undergo a rigorous selection process. The awardees are assessed based on research track record and ability to lead independent research. In judging the applicants, our panel looks for individuals with proven track records, evidence of maturity and potential for research independence.

**Q4.2: Can you tell me more about the interview process for shortlisted candidates?**

Shortlisted candidates will be flown in to Singapore to be interviewed in person by the NRF's international selection panel in March 2019.

**Q4.3: Can I submit more than 1 host institution letter of support?**

No. All applicants can only submit 1 host institution letter of support from their prospective host.

**Q4.4: How will I know if I have been selected for the final interview?**

Shortlisted finalists as well as unsuccessful applicants will be notified by email.

**Q4.5: Any other queries?**

For any other NRF Fellowship for AI related queries, please email us at [NRF-SDE@nrf.gov.sg](mailto:NRF-SDE@nrf.gov.sg).

## Self-Assessment Checklist

This checklist serves as a self-assessment guide to evaluate your eligibility for the Singapore NRF Fellowship for AI. Singapore National Research Foundation (NRF) however, reserves the right to accept or reject applications on a case-by-case basis.

### Assessing your Eligibility

- You must have shown potential to lead an independent research group and demonstrate track record of early achievements.
  
- You must be an early career researcher<sup>4</sup> with a PhD degree in AI or AI-related fields.
  
- You must not be holding an Assistant Professor or equivalent position<sup>5</sup> at a local research institutions for more than 1 year at the point of submission (i.e. defined by grant call closing date);  
  
You must not be at the RSE 3 level and above for more than 1 year at the point of submission (for A\*STAR applicants)
  
- You must not be a recipient of a similar early career award in Singapore.
  
- You must be committed to take up an independent research appointment on a full-time basis in Singapore, if selected.

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<sup>4</sup> An early career researcher is a young researcher who has completed his/her PhD and is not holding a tenured position.

<sup>5</sup> Equivalent position includes lecturers, research assistant professors and adjunct professors holding non-tenured position.

## Checklist of Supporting Documents

The following documents needs to be submitted to NRF for your application to be considered complete:

- CV
- Registration Form
- Research Proposal (Item 5 within the Registration Form)
- Host Institution's Letter of Support
- 3-5 Letters of Reference (submitted confidentially by your referees to the National Research Foundation, Singapore ([NRF-SDE@nrf.gov.sg](mailto:NRF-SDE@nrf.gov.sg)))