UNIVERSITY OF TORONTO
SCHOOL OF GRADUATE STUDIES

SGS Award Announcement

To: Graduate Chairs/Directors; Graduate Coordinators; Graduate Administrators

Re: **2024-2025 Apple Scholars in AI/ML**

This announcement is for internal purposes only. Per Apple's request, full information on the application process must not be posted on any website; applicants must therefore refer to this email announcement for eligibility criteria and application instructions.

When communicating this announcement to students, **please include information specific to your graduate unit's internal competition** (e.g., internal deadline(s), contact information for the submission of the applications).

Award Overview

Student Deadline to Graduate Unit:	Date set by graduate unit
Graduate Unit Deadline to SGS:	August 3, 2023 (not for students—unit must forward all nominations to SGS by this date)
Value/Duration:	2 years of funding; see details below
Level of Study:	Doctoral
Required Legal Status:	Domestic or International
Results:	December 2023

Purpose

The **Apple Scholars in AI/ML Program** recognizes the contributions of emerging leaders in computer science and engineering at the graduate and postgraduate level. The PhD fellowship in AI/ML was created as part of the Apple Scholars program to support the work of outstanding PhD students from around the world, who are pursuing cutting edge research in machine learning and artificial intelligence. Nominations are only reviewed from invited institutions.

Value & Duration

2 years* of funding, starting in Fall 2024:

- Full tuition and fees (including UHIP if applicable)
- $40,000 USD stipend for each academic year
- $5,000 USD travel grant for each year of the fellowship
- 2-year mentorship with Apple researcher
- Internship opportunities for one or both summers of their fellowship**

*Award is distributed on an annual basis at the beginning of each academic year, conditional upon the recipient's full-time enrolment in their program. If a student is not enrolled full-time in their second year, the award amount may be reduced or omitted at Apple's discretion.
**Internship offers are dependent on student status, and contingent upon necessary requirements for employment being met according to relevant employment law.

Eligibility

Nominees:

- Must be registered as a full-time PhD student at the nominating university at the start of Fall 2024, and expect to be enrolled through the end of the 2024/25 academic year
- Should be entering their last 2-3 years of study as of Fall 2024
- Should have demonstrated strong research through publication in one of the research areas listed below
- Must not hold another industry-sponsored full fellowship while they are an Apple Scholar in AI/ML (Fall 2024 to Summer 2026)

Research Areas
Nominees should be pursuing research in one of the following areas. The subtopics listed below are not meant to be exhaustive, but rather highlight areas of particular interest to Apple.

- **Privacy Preserving Machine Learning**: Federated Learning, Differential Privacy, Cryptographic Tools, Secure Multiparty Computation
- **Human Centered AI**: Social Signal Processing, ML for Multimodal Interaction, ML Design and Human Factors, Usable ML Tools and Products, Interactive ML, Model Personalization, Human-in-the-Loop ML
- **AI for Ethics and Fairness**: Bias and Fairness in AI, Interpretable AI, Introspection, Robustness
- **AI for Accessibility**: Accessible User Experiences, Automatic Personalization/Adaptation, Interactions via New or Combined Modalities, Participatory Design with People with Disabilities
- **AI for Health and Wellness**: ML and RL for Mobile Health, Time Series Representation Learning, Physiology-Informed Machine Learning, Modeling Multi-Modal Sensor Data, Causal Modeling, Human Behaviour
- **ML Theory**: Understanding ML, Generalization, Physics-based ML, Generative Models, Imbalanced Data Theory, Out-of-Distribution Setting
- **ML Algorithms and Architectures**: Auto ML, Model Compression, Architecture/Search, Optimization, Model Representation, Interpretability, Large-Scale ML, Foundation Models, Imbalanced Data, Unsupervised and Self Supervised Representation Learning, Diffusion Models
- **Embodied ML**: Imitation Learning, Multi-Output Models, Reinforcement Learning for Embodied ML, Hardware/Software Integration, Hardware Aware ML Training, Inference and Resource Constrained ML
- **Speech and Natural Language**: Speech Recognition, Text to Speech, Conversational and Multi-Modal Interactions, Machine Translation, Language Modeling and Generation, Large Language Models
- **Computer Vision**: Semantic Scene understanding, Video Understanding, 3D Scene Understanding, Efficient Deep Learning for Computer Vision, AI for Content Creation, Continual Learning, Computer Vision for AI/VR, Computer Vision with Synthetic Data, Language and Vision, Computational Photography, Vision for Robotics, Foundation Model for Industrial Machine Vision, Vision for Industrial Robotics
- **Information Retrieval, Ranking and Knowledge**: Knowledge Extraction and Information Retrieval, Knowledge Inference, Large-Scale Graph Data Management, Machine Learning and Data Systems Integration, Search and Ranking
- **Data-Centric AI**: Data Efficacy, Data Efficiency, Data Generation, Data Fairness, Synthetic Data Generation, Dataset Creation, Data and Annotation, Active Learning, ML-Enabled Data Annotation, Augmentation and Curation, Transfer Learning with Limited Data, Multi Modal Language Models, Unsupervised and Weakly-Supervised Anomaly Detection, Synthetic Defect Generation and Simulation, Sim2real Transfer Learning

Underrepresented groups
The University is strongly encouraged by the funding program to use at least one of the three (3) slots to nominate students who identify as a member of a traditionally underrepresented group in the technology industry.

An underrepresented group is typically defined as a group whose representation in a particular context is significantly lower than their group size in the wider population. In the North American technology industry, underrepresented groups generally refer to those who identify as Black, Hispanic, Native American (Indigenous), women, and non-binary individuals.

Note that an individual nominee's underrepresented group status will not be collected or reviewed by Apple; applications will be reviewed based solely on the strength of the submitted materials.

Selection Criteria

Nominations are reviewed and selected based on the strength and relevance of the research proposal, the impact the nominee has had on the field thus far (both as a researcher and community citizen), and their demonstrated potential as a leader and collaborator in the field.

When reviewing the research proposal, the Apple Selection Committee considers the following:

- Novelty and relevance of the proposal

- Scientific merit of the proposed approach
- Potential for impact
- Alignment with research areas highlighted by Apple

They also consider, in addition to the aforementioned research acumen, the unique perspective and experience each nominee brings to the field.

Application Process

The University of Toronto may submit up to three (3) nominations for the Apple Scholars competition. Given the extremely competitive and prestigious nature of this international award, graduate units are asked to carefully consider and **select only the highest quality applications for nomination.**

New in 2023: Apple is permitting universities to nominate only one (1) applicant per Research Area. Graduate units are therefore asked to identify each applicant's Research Area on the submission spreadsheet and to be highly selective by forwarding only their top two applicants per Research Area to the SGS-level competition. If an application falls within two or more Research Areas, the graduate unit must choose one area to report on the submission sheet and may choose to select an area with no other applications from the unit so as to maximize their number of submissions to SGS. Note: graduate units may submit an unlimited number of applications to SGS from students who identify as a member of a traditionally underrepresented group in the technology industry.

Applicants must submit **an electronic copy** of their completed application as a single flat (not portfolio) PDF via email to their graduate unit by the graduate unit's deadline, with the subject title "Apple 2024 – NAME OF APPLICANT." Students applying for both Google and Apple fellowships must submit two separate applications as each competition has its own list of required items.

Application Package

A complete application package will include all of the following items in the order listed:

- Student CV and publication list
- Research Abstract (**200 word maximum**)
- Research statement covering past work and proposed direction for next 2 years (**maximum 5 pages**, including citations, in a legible font size), clearly stating the hypothesis and expected contributions to the chosen research area.
- 2 letters of recommendation, one from current advisor (**1 page maximum per letter**). Letters must be emailed by each referee as a PDF attachment directly to the **graduate unit** (not SGS) with the subject title "Apple 2024 Ref – NAME OF APPLICANT" by the graduate unit's application deadline
- Optional: Link to most recent published work

Applicants should list their Apple Research Area(s), in order of relevance if more than one applies, in the body of the submission email to their graduate unit.

Application packages must not contain confidential or proprietary research. Additionally, the applicant's birth date and/or photographs should be removed or redacted if they appear on submitted materials. Transcripts are not required for the Apple competition and should not be included with applications.

Underrepresented group applicants only: please indicate within the body of the submission email to your graduate unit that you self-identify as being a member of an underrepresented group. Your underrepresented group status will not be disclosed during the SGS Committee scoring of the applications, and applications will be reviewed based solely on the strength of the submitted materials.

Results

The SGS Graduate Awards Office will notify applicants of the University competition results in late-September. The results of the international competition are communicated directly by the funding agency in December 2023.

Contacts & Resources

For more information, contact:
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