

Teaching and Learning Academy (Educational Data Scientist)  
Singapore Institute of Technology

Direct Link: <https://www.AcademicKeys.com/r?job=214869>

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Posted Jun. 8, 2023, set to expire Jul. 5, 2024

**Job Title** Teaching and Learning Academy (Educational Data Scientist)  
**Department** Office of the Provost  
**Institution** Singapore Institute of Technology  
Singapore, , Singapore

**Date Posted** Jun. 8, 2023

**Application Deadline** Open until filled

**Position Start Date** Available immediately

**Job Categories** Professional Staff

**Academic Field(s)** Statistics & Actuarial Science  
Mathematics/Applied Mathematics  
Computer/Information Sciences

**Job Website** <https://careers.singaporetech.edu.sg/cw/en/job/498439/teaching-and-learning-academy-educational-data-scientist>

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**Job Description**

## Teaching and Learning Academy (Educational Data Scientist)

**Job no:** 498439

**Department:** Office of the Provost

**Contract type:** Contract

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We are looking for an educational data scientist to join our team and help us leverage data to enhance teaching and learning. You will be responsible for collecting, analysing, and interpreting data from various sources, such as student records, assessments, feedback and learning analytics. You will also design and implement data-driven solutions that result in enhancing teaching and learning and administrative workflow efficiency. Your initial projects will be related to automated recognition of prior learning (RPL), learning analytics, and student feedback analysis.

As an educational data scientist, you should have a strong background in data science, statistics, and machine learning, as well as a passion for education. You should also have excellent communication and presentation skills, as you will need to collaborate with educators, researchers, and stakeholders to understand their needs and deliver actionable insights.

**Job Responsibilities:**

- Collect and pre-process data from various sources, such as student records, assessments, feedback and learning analytics.
- Analyse and interpret data to discover patterns, trends and insights that can inform educational decisions.
- Design, Develop, Deploy, Upgrade and Maintain software solutions. These solutions should be data driven, may involve classical machine learning techniques (decision trees, SVM) and recent techniques for LLM models (LangChains). For example:
  1. A system to recognize / summarise prior learning of students based on the profiles/evidence collected and map it to the competencies of relevant courses.
    - Design and deploy algorithms and models to analyse student evidence and identify relevant competencies.
    - Collaborate with module leads and instructors to ensure accurate mapping of prior learning to course competencies.
    - Continuously improve and update the recognition system based on feedback and evolving industry standards.
  2. Prediction models for student success and identify students at risk of falling behind.
    - Utilize machine learning and statistical techniques to analyse student data and develop predictive models for academic success.
    - Identify key indicators and risk factors that contribute to student success or at-risk behaviours.
    - Collaborate with academic advisors and faculty members to implement intervention strategies for at-risk students.

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3. A system to analyse student feedback to teachers and courses using AI techniques and provide actionable recommendations.

- Develop natural language processing (NLP) models to analyse student feedback and sentiment towards instructors and courses.
  - Identify common themes and patterns in student feedback to gain insights into areas for improvement.
  - Provide data-driven recommendations to faculty and administrators to enhance teaching methods and course content.
- Collaborate with educators, researchers, and stakeholders to understand their needs and requirements to deliver actionable insights.
  - Collaborate with cross-functional teams (e.g., faculty, administrators, researchers, and other stakeholders)
  - Communicate findings, insights, and recommendations to stakeholders in a clear and concise manner.
  - Collaborate with academic coaches to advise students on development of portfolio in fields related to IT and data science.
  - Work with vendor when necessary to develop larger system after selected pilot projects.

**Job Requirements:**

- Bachelor's or master's degree in a relevant field (e.g. Computer Science, Engineering, Data Science, Statistics or related disciplines)
- Experience in developing and implementing data-driven solutions in an educational or learning environment.
- Experience in data collection, pre-processing, and analysis
- Knowledge of machine learning algorithms, statistical analysis, and data visualization techniques.
- Proficiency in programming languages, such as Python and R, for data analysis and modelling
- Familiarity with natural language processing (NLP) techniques for text analysis and sentiment analysis.
- Experience with large language models and related frameworks
- Knowledge of vector databases and embeddings to store and retrieve data from various sources, such as student records, assessments and feedback is a plus.
- Knowledge of AI and machine learning techniques and algorithms, such as regression, decision trees or neural networks.
- Knowledge of educational theories and practices, such as competency-based learning, learning analytics or feedback analysis is an advantage.
- Excellent communication skills, with the ability to effectively convey complex concepts to both

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technical and non-technical stakeholders.

- Strong problem-solving skills and ability to work independently as well as collaboratively in a team-oriented environment.
- Attention to detail, with a commitment to delivering high-quality and accurate results.

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**Advertised:** 08 Jun 2023 Singapore Standard Time

**Applications close:** 07 Jul 2023 Singapore Standard Time

### Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

### Contact

Singapore