

Centre for Advances in Reliability and Safety Limited (CAiRS), initiated by The Hong Kong Polytechnic University, is established in 2020 with its operation located in the Hong Kong Science Park, New Territories, Hong Kong. The mission of CAiRS is to bridge academic and industrial counterparts to introduce and implement artificial intelligence methods and prognostic techniques to advance reliability and safety. The goal of the Centre is to improve reliability and safety of critical components and devices, products, systems and sub-systems designed, commissioned and/or manufactured by Hong Kong companies and enterprises. More information about the company can be found at <http://www.cairs.hk>.

- (1) **Postdoctoral Fellow – Electronic Assemblies** (Ref. No.: CAiRS-R27/P1.1 - Informative feature discovery and selection)
Postdoctoral Fellow – Electronic Assemblies (Ref. No.: CAiRS-R27/P1.2 - Early detection of degradation in electronic interconnects)
Postdoctoral Fellow – Electronic Assemblies (Ref. No.: CAiRS-R27/P1.3 - Anomaly detection for systems under indeterminate operating conditions)
[Appointment period: thirty-six months]
- (2) **Research Associate – Electronic Assemblies** (Ref. No.: CAiRS-R28/P1.1 - Informative feature discovery and selection)
Research Associate – Electronic Assemblies (Ref. No.: CAiRS-R28/P1.2 - Early detection of degradation in electronic interconnects)
Research Associate – Electronic Assemblies (Ref. No.: CAiRS-R28/P1.3 - Anomaly detection for systems under indeterminate operating conditions)
[Appointment period: thirty-six months]

Duties

The appointees will assist the Project Leaders and Programme Manager in the development of electrical and electronic modules with sensing and AI algorithms used for health monitoring of electronic systems.

For the post of **Postdoctoral Fellow**, the appointee will be required to:

- (a) prepare literature review on the manufacturing process and testing requirement of electronic assemblies;
- (b) design experiments as required in the health monitoring of modern electronic systems;
- (c) develop feature recognition algorithms and create simulation models for different defects in the interconnections of the electronic assemblies;
- (d) prepare and publish relevant research papers in high-tier peer-reviewed journals; and
- (e) perform any other duties as assigned by the Centre Director or his delegates.

For the post of **Research Associate**, the appointee will be required to:

- (a) conduct literature search on the manufacturing process and testing requirement of electronic assemblies;

- (b) make prototypes and set up experiments as required in health monitoring of electronic systems;
- (c) study feature recognition algorithms and simulation models for different defects in interconnects of the electronic assemblies;
- (d) prepare relevant technical reports; and
- (e) perform any other duties as assigned by the Centre Director or his delegates.

Qualifications

Applicants for the post of **Postdoctoral Fellow** should have a doctoral degree in Product Engineering, Industrial Engineering, Electrical/Electronic Engineering or related disciplines, or an equivalent qualification in a related field. They should have a good publication record.

Applicants for the post of **Research Associate** should have a master's degree in Product Engineering, Industrial Engineering, Electrical/Electronic Engineering, related disciplines.

For both posts, applicants should also have:

- (a) Good understanding in the manufacturing and assembly of prototypes for printed circuit boards (PCBs)/electrical and electronic components or devices; and
- (b) Experience in design of experiments, or failure analysis of electrical and electronic components will be an advantage; and
- (c) Basic knowledge of machine learning, and
- (d) Good interpersonal and communication skills; and a good command of written and spoken English.

Fresh graduates are also welcome.

Applicants are invited to contact Prof. Lam Kin-man Kenneth at email kin.man.lam@polyu.edu.hk for further information.

Remuneration

A highly competitive remuneration package will be offered. Applicants should state their current and expected salary in the application.

Application

Please send a completed application form, together with a detailed curriculum vitae via email to careers@cairs.hk

Feb 2022

Deadline for application: Recruitment will continue until the position is filled.