

Intelligent nuclear medicine ward

With several recent approvals, targeted radionuclide therapy has established itself as an emerging therapeutic modality in oncology. Nonetheless, the escalation in patient volume and the diversification of utilized radioisotopes present substantial challenges in the administration of nuclear medicine wards. Advancements in artificial intelligence present an unparalleled potential to address these challenges, offering solutions for tailored radiation monitoring, systematic ward management, and proactive risk prevention. This interdisciplinary master's thesis, co-supervised by the schools of CIT and ED, seeks to foster collaboration with experts spanning computer science, real estate management, medicine, and medical physics. The objective is to catalyze technological breakthroughs conducive to an optimized, intelligent ward environment.

Methodology:

- Extend and further development of existing house management system to ward management.
- Incorporate artificial intelligence models to improve risk identification and prevention.
- Providing proof of concept by designing (part of) the IoT system.

Prerequisite:

The candidate is expected to possess proficiency in programming, particularly in C++ and/or Python. A foundational understanding of physics and information management will be advantageous.

Financial supplement:

A financial supplement (equivalent to a HiWi job) will be provided for this thesis project.

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