



Open PhD Position

Title: Innovative Quantum-Neural Networks for Human Postures Identification in Enhancing Human-Aware Robot Motion Planning

Position Overview: We invite applications for a highly motivated PhD research scholar to join our research team. The research focuses on developing quantum-inspired neural models for accurate identification of human postures, which will be applied in enhancing human-aware robot motion planning. This research is at the intersection of quantum computing, machine learning, and robotics, aiming to push the boundaries of how robots interact with and understand human daily activities. The position will be supervised by Professor Robert Sitnik and Dr. Vibekananda Dutta.

Research Team: <https://ztrw.mchtr.pw.edu.pl/about-vrtd/>

Prof. Robert Sitnik: https://scholar.google.pl/citations?user=_US02yMAAAAJ&hl=pl

Dr. Vibekananda Dutta: <https://scholar.google.pl/citations?hl=pl&user=Y1nNougAAAAJ>

Key Responsibilities:

- Develop and implement quantum-inspired neural models for posture identification.
- Integrate advanced human posture recognition systems into robot motion planning algorithms.
- Conduct experiments and simulations to validate model performance.
- Collaborate with a multidisciplinary team of researchers.
- Publish research findings in field-related journals and present them at international conferences.

Required Skills and Qualifications:

Classical Mathematics:

- Strong foundation in quantum mechanics, linear algebra, and classical mathematics.
- Understanding of the principles of quantum computing and its applications in machine learning.

Programming Skills:

- Experience with Python programming.



- Experience with computer vision libraries/tools (e.g., OpenCV).
- Knowledge of machine learning/deep learning libraries and tools (e.g., TensorFlow, PyTorch, scikit-learn).

Additional Skills:

- Good analytical and problem-solving skills.
- Ability to work as part of a collaborative research team.
- Excellent scientific written and verbal communication skills.

Application Process:

Interested candidates should submit the following documents:

1. A detailed CV highlighting relevant skills and experiences (share your GitHub profile).
2. A cover letter explaining your interest in the position and how your background aligns with the project.
3. An initial task orientated meeting will be organized with the candidates to assess their background and basic skills.

Salary:

3000 PLN (doctoral fellowship) + 3000 PLN (fund from project)

6000 PLN per month (1500 Euros)

** Students until 26 years age don't pay taxes according to the Polish law systems.

Contact Information:

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Join us in this exciting team to explore the fusion of quantum computing and neural networks, driving forward the future of human-robot interaction!