

Dear Rector:

The online advertisement has sparked my interest in the post of Assistant Professor (Docent) of Robotics in Institute of Technology, University of Tartu. Please accept this cover letter and the following CV as my application for this post. Let me explain how I can contribute to this department.

My PhD research is about the influence of a surrounding/preceding emotional context on the human emotional judgments of the facial expressions of a robot. A large part of my research concerns the statistical verification of hypotheses. I have used both parametric and non-parametric statistics to quantify the credibility of my hypotheses. This was carried out using both parametric and nonparametric statistical tests. My work involves data-processing and analysis of the large data set. In my PhD research, data was collected from more than 10 experiments involving more than 300 participants.

My basic degree in Communication Engineering in Chongqing University, China, has equipped me with a sound knowledge in C, C++, Matlab, VHDL, Assembly Language, and C# programming. During my PhD period, I have demonstrated my strong programming skills, especially in Java and Matlab, in my scientific research. The MSc in Control Systems (University of Sheffield, UK) covers various subjects of immediate relevance, such as Computer programming in Matlab, Neural Networks, Robotics & Vision, Signal processing & Estimation & Image processing, and Optimization & Search. I have relevant experience in using machine learning and pattern recognition techniques to process large data sets. For example, Matlab was used to implement an optical character recognition system to analyze data coming from web cam images of "Word Search".

Furthermore, as a teaching assistant in the University of Sheffield, I have considerable experience in teaching undergraduate courses. The teaching experience gradually reinforced my view on five principles in teaching philosophy: simple and stupid, classical and practical, learning-by-doing, critical thinking, Socratic method or method of "elenchus", and inter-disciplinary skills. My command of written and spoken English has also been enhanced. This has helped me tremendously in recruiting and liaising with laboratory participants. My experiments, which involve dialogues with the subjects, were carried out smoothly due to good communication skills.

My short-term research plan is to build computational perceptual model based on the Perceptual Control Theory (PCT) on emotions for human-robot interaction. This model will be tested on an android robot head which I will build with Arduino chips. When this plan is realized, I will carry on my research to investigate the behaviors and emotions of socially interactive robots, which is my long-term plan about research.

I am confident that my background and knowledge in the Computer Science, coupled with my strong technical know-how in software programming, will prove to be an asset to your department. I am sure that working in your department will contribute significantly to my knowledge and equip me with invaluable work experience.

Thank you for your time. I look forward to your favorable reply.

Sincerely,

Jiaming Zhang