Sajed Zarrinpour Nashroudkoli

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Chalmers University of Technology and University of Gothenburg
SE-412 96 Gothenburg
Sweden

Zanjan, Iran, 05 February 2020
Subject:Deep learning for the optimal filtering problem

Dear Selection Committee,

I am sajed zarinpour, a master student at the Institute for Advanced Studies in Basic Sciences, Zanjan, Iran. I am writing in response to your Ph.D. position vacancy at *CHALMERS UNIVERSITY OF TECHNOLOGY*, Mathematics department. I believe this position is well suited for me due to my experiences in my previous studies and also it fulfills my future goals.

Fascinated by modeling the real world phenomenons, I've always wanted to find my way to model real-life situations. Combine numerical methods and neural networks seem very promising for me to conquer challenges towards modeling real-world problems. Specifically, by going further in modeling the breast deformation to do patient-specific modeling in clinical procedures to help doctors to diagnose and cure patients. To achieve that, I had to bring uncertainty in my equations, forming my master thesis Solving Partial Differential Equations With Uncertainty Using Neural-Networks. It was quite a challenge for me to master the process and put things in together. I had some computer science and programming background already, throughout the process, I tried to develop my mathematical knowledge as well. I accomplished that in collaboration with my supervisor and my lab mates.

I am the kind of person who needs to enjoy what he is doing so I decided to continue my research in the field which is my real interest, combining numerical methods with neural networks and especially the finite element method, for my Ph.D.

I want to continue my research in your group, where I think I can play a part in developing new useful methods. As a graduate student, I believe the international environment plays an important role in developing my career.

I read the project description and watched Adam Andersson's lectures on Deep learning for solving PDE and for stochastic control and I found my self well suited for the Ph.D. position because I had already involved in the topic. Since I know exactly how to use it to help people, I have a strong motivation to develop the subject. After all, every person needs to feel useful to be satisfied with his work.

Yours sincerely,

Sajed Zarrinpour Nashroudkoli

PERSONAL INFORMATION

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STUDIES APPLIED FOR

Graduate Applied Aathematics

EDUCATION AND TRAINING

22 Sep 2012–22 Sep 2017

Bachelor's degree in applied mathematics and computer science
Guilan University, Guilan (Iran)

Study on GMDH algorithm for Stock Price

23 Sep 2017–Present

Master's degree in Numerical Analysis
Institute for Advanced Studies in Basic Sciences, Zanjan (Iran)

Numerical Method for Solving PDEs with Uncertainty Using Neural-Network

PERSONAL SKILLS

Mother tongue(s)   Persian

Foreign language(s)

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
C1	B2	C1	C1	C1

English

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages

Job-related skills   C/C++, Python Keras, Python Torch, Freefem++, NetGen

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem-solving
Proficient user	Independent user	Proficient user	Proficient user	Proficient user

Digital skills - Self-assessment grid

Iranian-Austrian Winter School: From Biophysical Modelling to Simulation Codes, Graz university and Isfahan University of Technology, Iran, January 2019
Introduction to Data Science in R, IASBS, Iran, March 2019

I am a programmer for about ten years now. I know programming languages including C/C++, Python, PHP and R, and programming paradigms like OOP. Also, I am familiar with parallel programming with OpenMP and design patterns. Furthermore, I am an experienced Linux user.