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Tansel Arif

Skills

Programming T-SQL, C++, C#, Python

General Numerical computing, Modeling and simulation of fluid mechanics and thermodynamics, Strong ad hoc problem solving, Machine Learning, EDA

Languages English (native), Turkish (fluent)

Education

2011 - 2015 **Imperial College London**, *PhD. Materials Science and Engineering*, UK.

2009 - 2010 **Queen Mary University of London**, *MSci. (1^{st} Class Hons) Mathematics*, UK.

2006 - 2009 **Queen Mary University of London**, *BSc. (1^{st} Class Hons) Mathematics*, UK.

Work and Teaching Experience

2018 – 2018 **Thought Provoking Consulting - Quantitative Consultant, Data Scientist**, UK.
Responsibilities:
- Inference methods (Bayesian) - R.
- EDA and machine learning (Linear Regression, NLP) - Python.
- Implementing optimisation algorithms (algorithms developed to optimise a target indicator) - C#.
- Creating and maintaining proper source control, deployment and maintenance of code for in-house tools.

2017 – 2018 **FIS (SunGard) - Quantitative Consultant**, UK.
Responsibilities:
- Specification and implementation of mathematical models using C# for the efficient pricing of complex financial products, for the evolution of future market and credit events and for the calibration of risk models.
- Verifying that new and existing models are correct and appropriate.
- Providing client support on questions related to software behaviour.
- Project management in times of scarce resources.

2015 – 2017 **FIS (SunGard) - Consultant, Risk and Compliance**, UK.
Previously SunGard Financial Systems. A vendor providing solutions to financial corporations in terms of risk and exposure management and financial regulatory compliance.
Responsibilities:
- Maintenance, optimisation and troubleshooting of test farms / servers / databases which clients use for test cases for product development using Delphi and T-SQL (Microsoft SQL Server).
- Finding and carrying out optimisations and fixes to these environments
- Implementing code changes (Pascal/C#) to improve or fix issues in calculation methodology/equations
- Customisation of the user facing web code to suit the needs and requirements of users (Javascript/C#)
- Coding and producing independent support utilities to improve client satisfaction

2011 – 2015 **Private tutor**, UK.
On average 8-12 hours a week of private tuition in mathematics.

Research Experience

2011 – 2015 **Imperial College London**, UK.

- The focus during my PhD research has been on the development of theory and code (C++) for the phase-field modelling and simulation of microstructures found in steel [1,2] as well as the formation of van der Waals fluids using the smoothed particle hydrodynamics method.
- Given my interest in the prediction of general evolutionary phenomena, I have collaborated on cellular automata treatment for solidification [3].
- My final results involve the development of tools to combine the capabilities of multiple models to deal with situations involving fluid flow, solidification and solid-state phase transformations.

2009 – 2010 **Queen Mary University of London**, UK.

- Investigated the pure mathematical constructions of codes in coding theory.
- The work involved writing code and alternative proofs for some known codes.

Training

August 2017 **Inferential Statistics** - Inferential Statistics with R. [Coursera-Certificate]

December 2016 **Front-End Web UI Frameworks and Tools** - Bootstrap and Web Development. [Coursera-Certificate]

August 2016 **Valuation: Alternative Methods** - Financial Valuation. [Coursera-Certificate]

Awards

June 2012 National Student Conference in Metallic Materials - Awarded best presentation prize for the presentation of PhD project. [DepartmentLetters.pdf]

July 2009 Queen Mary University of London - Awarded the Westfield Trust Prize for outstanding academic achievement, [Awards.pdf]

May 2006 QCA Lewisham College - Gym, Exercise and Fitness Knowledge instructor.

July 2005 Lewisham College - Awarded enrichment certificate in peer mentoring.

Speaking

June 2014 Imperial summer seminar series - Talk "A fundamental problem in computational steels processing".

December 2013 International Conference on Processing & Manufacturing of Advanced Materials - Poster "A phase-field model for the formation of martensite and bainite" [ThermecProgramme.pdf]

June 2012 National Student Conference in Metallic Materials - Talk "A phase-field model for martensite".

Publications (ACADEMIA.EDU)

[1] T. T. Arif and R. S. Qin: *A phase-field model for bainitic transformation*, Computational Materials Science **77** (2013) 230, [doi:10.1016/j.commatsci.2013.04.044].

[2] T. T. Arif and R. S. Qin, *A phase-field Model for the Formation of Martensite and Bainite*, Advanced Materials Research **922** (2014) 31, [doi:10.4028/www.scientific.net/AMR.922.31].

[3] Y. Zhao, D. Chen, M. Long, T. Arif and R. Qin, *A three dimensional cellular automata model for dendrite growth with various crystallographic orientations during solidification*, Metallurgical and Materials Transactions B **45** (2014) 719, [doi:10.4028/www.scientific.net/AMR.922.31].