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# Tansel Arif

## Skills

Programming	SQL/T-SQL, C#, Python
Statistical	Regression (Linear, Ridge, Lasso, Bayesian, Logistic, PCR), Clustering (K-Means), Markov Chain Monte Carlo Simulations, Statistical Tests (Hypothesis Tests, Confidence Intervals, Prediction Intervals, Credible Intervals)
General	Numerical computing, Strong ad hoc problem solving
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<sup>st</sup> Class Hons) Mathematics*, UK.  
2006 - 2009 **Queen Mary University of London**, *BSc. (1<sup>st</sup> 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.

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## 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.

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## Training

- December 2018 **Bayesian Statistics** - Bayesian Statistics with R. [Coursera-Certificate]
- 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]

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## 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.

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## 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”.

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## 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](#)].