Nainesh Patel

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DOB 15/01/1988	**Nationality** British

A highly motivated and committed learner who has a thirst for ongoing knowledge and relishes the challenges of problem solving. I am looking for a technology-oriented role in a team with high aspirations.

Key skills and interests

Taught master of mathematics - 2:1 degree from the University of Nottingham, MATLAB - 10 years experience, Bluff body aerodynamics, Computational fluid dynamics, OpenFOAM (C++ environment) and Ansys CFX - pre-processing, solving and post-processing, Turbulence modelling, Fluid dynamics, 3D modelling and visualisations, Wind tunnel testing, Flow feature analysis, Signal analysis, Fourier analysis, Numerical and computational methods, Biomedical mathematics, Linear and nonlinear dynamical systems, Ordinary differential equations, Partial differential equations, Embedded systems, Pressure sensors, Automation, Robotics, Internet of things, Computer numerical control machines, Teaching assistant, MS office tools, Latex.

Education

- Doctoral researcher at University of Birmingham
  - An academic paper has been submitted in the "Journal of wind engineering and industrial aerodynamics" and is awaiting review
  - Published a paper at an international conference
  - Awarded a first place prize for an oral presentation at a BlueBEAR conference
- MMath at University of Nottingham
  - Obtained a 2:1 Masters degree in Mathematics
- Worked on optimisation problems with modern jet engines in final year dissertation
  - 1st class grade in all research projects taken
- Self taught in embedded systems, based on a C/C++ environment

2011 - 2014: I have compleated 2 years of a PhD program in the school of civil engineering at the University of Birmingham. My research is in wind engineering. I have used full-scale experimental data to validate computational models that are used to investigate the relationship between aerodynamic properties of road vehicles and the flow structures which exist around them primarily using signal analysis.

Specific accomplishments during my research: I have submitted an academic journal paper which is awaiting review. Published a paper at an international conference; the 6th European & African Conference on Wind Engineering. I have also been awarded a first place prize for an oral presentation at a BlueBEAR conference.

2006 - 2010: Graduated from The University Of Nottingham with a 2:1 in a Master of Mathematics degree with Honours. Some modules I have found to be particularly interesting included: Fluid dynamics, Numerical and computational methods, Topics in biomedical mathematics, Linear and nonlinear dynamical systems.

4th year dissertation researched "Simple film modelling in an aero-engine bearing chamber", building a computational model in MATLAB to describe the overall dynamics of fluid inside a bearing chamber. I have successfully demonstrated several methods to make the modern jet engine more efficient.

In addition to academic commitments while at university I became interested in embedded systems. A project of mine includes programming a micro controller to be used as a variometer; an in-flight instrument used in paragliding.

- A-levels AAC + AS-level C
- "Norfolk county scholar"
- GCSE's A*, 5A's, B + 3C's

2004 - 2006: Graduated from King Edward VII 6th form in Mathematics A, Further Mathematics A and, Economics and Business Studies C at A Level and also Physics C at AS Level.

I received an A*, 5A's, B and 3C's in my GCSE's including Maths, Double science and English. .

Programming skills

- MATLAB and Maple

10 years experience with MATLAB and 4 years with Maple, used on a regular basis to solve problems using analytical and numerical techniques. I also have an interest in data analysis and visualisation. Benefits of using high level programming languages allow me to quickly and reliably make educated decisions. Discovering the advantages of lower level object orientated languages, I have taught myself C++ (3 years experience).

- OpenFOAM, Ansys CFX and Ensight - Computational Fluid Dynamics software

3 years experience using OpenFOAM and Ensight, strengths are in incompressible fluid flows, I have a good understanding of turbulence models and their applications in OpenFOAM. Have used Ansys CFX in a side consultancy project, the projects has given me a good understanding of applying problems within the Ansys CFX environment. Ensight is my program of choice for post-processing results.

- Languages I have taught myself include C++, Fortran, TI Basic
- Markup languages include LaTeX HTML and CSS
- Proficient in using MS Office tools: Word, Excel, PowerPoint
- Experienced Linux (Scientific, Debian and Ubuntu), Windows and Macintosh user

Programs and languages I am comfortable using include MS Office, LaTeX, iWork, Minitab, Fortran, TI Basic, Final cut pro, Photoshop.

Employment, Volunteer work and & Personal

- Gaywood Valley Conservation Group Committee member

2015 - 2016: Committee member of a local conservation group protecting the flora and fauna in the Gaywood valley.

- Postgraduate teaching assistant
  - Interpersonal skills
  - Problem solving
  - Team working
  - Lab classes

2011 - 2013: Assisted in a wide variety of modules which were taken by undergraduate students who were from a range of different engineering disciplines. My role is to help students during problem classes, answering any questions they have. This required becoming familiar with course material, working through problem sheets and coursework that students were given and relaying information to students in a way in which they are able to understand. I have also experience in delivering lab classes and marking lab reports.

- OpenFOAM course leader
  - Writing and delivering a course independently

2013: Won 750 pounds to deliver a 2 day introductory course using OpenFOAM. The course covered mesh generation, choosing boundary conditions, setting environment variables choosing turbulence closure models, monitoring simulations, visualisation of results and extracting interesting data.

- Consultancy project
  - Liaising with clients from an industry background
  - Report preperation

2013: Carried out a consultancy project for a company in industry. Main objectives for this project were to investigate the aerodynamic forces and moments on a train subjected to crosswinds in various environmental conditions for example over a viaduct with wind defences to investigate its influence on the stability of the train.

- Internship at Nottingham Contemporary

2010: Internship in the technical department of an art gallery. Hired as a photographer and videographer, documenting local events including the opening of the "British Art Show 7".

- Interests and activities:
  - Programming
  - Paragliding

In my free time I enjoy creating generative art. I often use computers to solve problems I encounter in my activities. I am certified as an elementary pilot in paragliding.