

Adel Ansari

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Skills & Interests

- Statistical and quantitative measurements using analytical means and computational software.
- CAD modeling and structural analysis in FEM software Packages.
- Data science, mathematics, statistics, Python, advanced statistics in Python, Machine & Deep Learning
- Nuclear reactor operation, safety analysis and radiation measurements.

Education

September 2017–2019 **M.Sc. Mechanical Engineering, Aalto University, Finland.**

Thesis Topic: *Interactions of Mechanical Waves and Superhydrophobic Coating*

- Detailed design of the front wheel suspension for a Formula car based on MBS, FEM, machine components, lifetime calculation, cost estimation and evaluation.
- Structure modeling using beam, rigid, and force elements in Mathematica.
- Design of LQR and PID controller for over-head crane sway control, CAD simulation, component selection and dynamic visualization.
- Contact resistance and 2d conduction analysis, simulating temperature diffusion in a metal string, CFD simulation data processing and plotting in MATLAB.

September 2012–June 2016 **B.Sc. Nuclear Engineering, University of Sharjah, UAE.**

Senior Year Project: *Radioactive Environmental Monitoring in the City of Sharjah*

- Initial design calculation of PWR components and main cycle with focus on reactor core and vessel, fuel assembly, pressurizer, coolant pumps, steam generator, turbine and condenser in MATLAB.
- Monte Carlo program using MATLAB that simulates gamma ray transport in two dimensions (X-Y) in order to predict response of a continuous level gauge.
- Developed a graphical user interface using MATLAB for analyzing the spectrum of different radiation sources.

Professional Experience

- May 2018– **Research Assistant**, *Aalto University*, Finland.
- December 2018 Joint appointment between Department of Neuroscience and Biomedical Engineering and Department of Applied Physics".
- September 2018– **Teaching Assistant**, *Aalto University*, Finland.
- October 2018 Instructor and course: Tommi Mikkola, Fluid Dynamics
Duties: Supervise exercise sessions, assist students to solve assignments, grade assignments and exam papers.
- September 2016– **Research Assistant**, *University of Sharjah*, UAE.
- November 2016
 - Experimental setup, data collection and analysis of microstructure, X-ray diffraction and mechanical properties for metallurgical research.
 - Study the influence of multiple carbides on nucleation and grain growth in a martensitic stainless steel.
- June 2015– **Summer Trainee**, *Tecnatom*, *Madrid*, Spain.
- September 2015
 - Defect detection using ultrasound non-destructive testing methods on nuclear components.
 - Validating InspectView evaluation software by setting up phased array inspection system for testing.

Languages and Software

- **Languages:** English (Fluent, CEFR level=C1), Persian (Native proficiency), Arabic (Bilingual proficiency), Finnish (1B).
- **Programming Languages:** Python, MATLAB, Wolfram Language, C++, VB, LaTeX, HTML, Ruby, Hadoop, TensorFlow, Java
- **Software Skills:** Mathematica, Simulink, SolidWorks, CATIA, COMSOL, AutoCAD, MathCAD, Fusion 360, Siemens FEMAP, PLM, NX, ABAQUS, PTC Creo, ANSYS.

References

- Robin Ras, Associate Professor, Department of Applied Physics, Aalto University; robin.ras@aalto.fi
- Heikki J. Nieminen, Assistant Professor, Department of Neuroscience and Biomedical Engineering, Aalto University; heikki.j.nieminen@aalto.fi