



AHMED H. HANFY

Mechanical Engineer ||
Aerodynamic specialist

PROFILE

Doctoral researcher in the Marie Curie fellowship program with experimental aerodynamics expertise. Proficient in Python, MATLAB, and C++; skilled in data/image analysis. Proficient in CAD modeling using Autodesk Inventor and good with Siemens NX. Seeking to contribute expertise and pursue learning, and advance career.

CONTACT ME



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LANGUAGES

English



Italian



Polish



Arabic



SKILLS

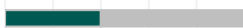
Inventor



Siemens NX



AutoCAD



3D Max



Ansys (Fluent)



Python



MATLAB



Other skills

3D printing, Manufacturing, C++, Fortran, OpenMPI, MATLAB GUI, unsteady measurements, Signal processing, Analysis, Image analysis, POD, PCA, machine learning, LabVIEW, Wind-tunnel operation

ACTIVITIES

Summer trainings [Hydro-electric stations, Diesel engines & Hydraulic maintains (MANTRAC), ASME CFD workshop].

Volunteering [researcher's night, Science Club Chairman, Egypt Scholars AlexS. Chapter].

EXPERIENCE

Doctoral Researcher (Aerodynamic specialist) [Nov 2020 - Present]
Institute of fluid-flow machinery polish academy of sciences, Gdansk (Poland)

- Lead the test planning to investigate manufacturing and surface roughness effects on transonic compressor fan profile experimentally.
- Coordinated the collaboration with Rolls Royce Deutschland to apply the surface texture on the suction side of the profile.
- Modify design, provide detailed drawings of an existed single passage compressor fan profile.
- Improve pressure measurement resolution on suction side of the profile.
- Model the piping system to control corner flows led to increase the suction efficiency by 30%.
- Improve wind tunnel feedback system and Fast camera triggering using LabVIEW and DAQs devices with an accuracy of 0.06s.

Junior engineer / mechanical designer [Mar 2018 - Sep 2018]
Taqat ME (Renewables and Environment)

- Sheet metals design and modeling solar tanks.
- Document the manufacturing process and plan the inspection procedures.
- Supervise manufacturing and inspection of solar tanks.
- Design and supervise the building of a 20k Liter water tank.

Head of mechanical design and manufacturing [2014 - 2016]
Torpedo robotics team (student organization-ROV competition)

- Mechanical team leader and part of team board.
- Design and develop vehicles manipulators.
- Computational analysis specialist (structure and fluid analysis).

SCIENTIFIC VISITS AND INTERN SHIPS

Visiting Researcher [Aug 2022 – Sep 2022]

German Aerospace Centre (DLR), Cologne (Germany)

Unsteady measurements campaign at DLR Transonic Cascade Wind Tunnel

Research Internship [Feb 2020 – May 2020]

Institute of fluid-flow machinery polish academy of sciences, Gdansk (Poland)

Complementary course during master's study to get knowledge on Image analysis.

EDUCATION

Ph.D. Mechanical engineering [2020 - Present]

Marie Skłodowska-Curie Actions, Innovative Training Networks HORIZON 2020

Institute of fluid-flow machinery polish academy of sciences, Gdansk (Poland)

(Est. Graduation, 2024)

M.Sc. Applied Mathematics and Mathematical Engineering

InterMaths Joint MSc Programme (<https://www.intermaths.eu/>) [2018 - 2020]

- University of L'Aquila (UAQ), Italy (year 1).
- Ivan Franko National University of Lviv (IFNUL), Ukraine (year 2).

B.Sc. Mechanical Engineering

Alexandria University (AU), Egypt

[2011 - 2016]

SELECTED PROJECTS

- **ROV modelling** (Using Autodesk inventor)
- **Water tank metal sheet design** (Using Autodesk inventor)
- **CFD applications in oil and gas industry** (Multiphase, Fluent – BSc. Project).
- **Finite Fringe Analysis for Optical Measurement of Compressible Fluid Flow Parameters** (MATLAB GUI application - MSc. Thesis).

ACHIEVEMENTS AND AWARDS

MATE ROV 2015, 2016 and 2017 (Torpedo robotics-Alexandria University)

- Team achieved 2nd in **regional competition**, ranked [20/600] worldwide.
- **International representation**
[Long Beach City College, USA (2017) -
NASA Neutral Buoyancy Laboratory, USA (2016) -
Memorial University of Newfoundland, Canada (2015)].



Full CV