Experience

Ventus Engineering GmbH | Data Analysis R&D department

Senior Data Scientist

Vienna, AT
Jul 2022 - Jun 2023

- Designed, implemented, tested & deployed real-time wind turbine condition monitoring algorithms.
- Initiated and led interdisciplinary data-driven projects for sensor technology development.
- Coordinated the activities of scientists and engineers (5 to 10 people) across data science and product R&D departments.
- Presented results and insight to international stakeholders, partners & customers.
- Advised on strategic programming for product development and resource planning.

German Aerospace Center (DLR) | Institute of Aerodynamics and Flow Technology

Staff research scientist

Göttingen, DE
Apr 2014 - Jun 2022

- Developed and implemented tailored image processing algorithms for aerodynamic research (3D reconstruction, motion analysis, feature detection, vibration analysis & correction).
- Responsible for the entire processing chain of data from high-speed multi-camera systems.
- Coordinated scientists and technicians (5 to 10 people) during 10+ experimental measurement campaigns in industrial and academic wind tunnels.
- Planned and coordinated 5 consultancy projects with industrial customers (Airbus DE/UK/FR, Rolls Royce DE, DNW - project size ≈500 k€).
- Oversaw activities in 5 European projects (≈1-5 million €) and 5 national research projects (DFG, LuFo, DLR internal).
- Established & coordinated international scientific collaborations (Ghent University, UniBW Munich, TU Delft, ONERA, Uni Southampton, CNRS).
- Author of 15 scientific papers, reviewer for peer-reviewed journals, lecturer, chairman and speaker at 13 international conferences, PhD students supervisor.

Delft University of Technology | Energy Technology group

Research scientist

Delft, NL
Apr 2013 - Mar 2014

- Introduced non-intrusive velocimetry techniques for the investigation of ORC turbogenerators.
- Coordinated the set up of a new experimental facility (design, feasibility study, documentation).
- Co-authored one journal article and supervised MSc and PhD students.

Delft University of Technology | Aerodynamics group

Research scientist

Delft, NL
Sep 2008 - Feb 2013

- Developed & implemented novel image processing algorithms for non-intrusive fluid dynamics investigations of turbulent flows.
- Led a team of scientists (3 to 5 people) in wind-tunnel experimental investigations.
- Established and coordinated collaborations with international research groups (CWI Amsterdam, DLR, IMFT Toulouse, University of Naples, LaVision GmbH).
- Contributed in planning and organizing two European projects, wrote ERC PoC grant proposal.
- Author of 6 articles in peer-reviewed journals, reviewer of 10+ scientific papers, speaker at 4 international conferences.
- Supervised MSc students and taught courses in experimental aerodynamics.

Delft University of Technology | Aerodynamics group

Research assistant

Turin, IT
Jul 2007 - Jun 2008

- Optimized & parallelized CFD codes in collaboration with CINECA supercomputing center.
- Supervised students and lectured in the experimental aerodynamics MSc course.

Core competences & skills

Technical	data analysis, aggregation & cleaning • algorithm development & implementation • programming languages (Python, C++, SQL, Matlab, Fortran, Julia) • data science libraries (Numpy, Pandas, Plotly, Matplotlib, OpenCV) • machine learning • data visualization (static, interactive, 3D) • big data (raster & vector) • database management (PostgreSQL) • version control (Git) • testing (pytest) • time series analysis • statistical analysis • image and signal processing • 3D techniques (reconstruction, motion analysis, particle tracking) • measurement techniques • calibration methods • fluid dynamics
Management	team coordination • supervision & mentoring • engineering consultancy • program development
Communication	technical reporting & presentation • scientific communication, writing & reviewing

Education

Delft University of Technology | Aerospace Engineering faculty   Delft, NL
PhD - Doctor of Philosophy   Sep 2008 - Feb 2013
- Research topics: image-based measurement techniques, tomographic reconstruction, 3D motion analysis, fluid mechanics, advanced flow diagnostics.

Politecnico di Torino | Aerospace Engineering faculty   Turin, IT
Master of Science   Sep 2004 - May 2007
- Grade: 110/110 with honors

Politecnico di Torino | Aerospace Engineering faculty   Turin, IT
Bachelor of Science   Sep 2001 - Aug 2004
- Grade: 103/110

Courses

German course (level A1 to B2)	Volkshochschule Göttingen	Sep 2014 - Feb 2016
German course for employees	German Aerospace Center (DLR) Göttingen	Jan 2015 - Mar 2019

Languages

English	|	Proficient user (CEFR C2)
German	|	Independent user (CEFR B2)
Italian	|	Native