PEDRAM GHORBANPOUR

ENERGY & DATA ENGINEER

CONTACT & INFO

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Dec. 9th 1993

EDUCATION

MSc, Energy Engineering – Sapienza University of Rome (2017–2020)
Thesis: Hydrodynamic design of horizontal-axis tidal turbines using BEM

BSc, Mechanical Engineering – University of Tabriz (2012–2017)
Thesis: CFD analysis of heat transfer in laminar impinging jets

CORE SKILLS

Software & Data: Python, Django, Pandas, NumPy, SQL, Docker, AWS, Git

Energy & Engineering: Renewable systems optimization, wind/tidal turbine design, CFD & BEM modeling

Operations & SaaS: ETL pipelines, API integration, cloud deployment, platform scaling, customer reporting automation

Languages: Persian (Native), Turkish (Native), English (Fluent), Italian (Fluent)

PROFILE

Energy & Data Engineer with 5+ years of experience at the intersection of renewable energy systems, software engineering, and data-driven operations. Currently managing large-scale energy data pipelines and SaaS solutions at GreenFlex (TotalEnergies Group), delivering measurable efficiency gains for industrial and retail clients. Proven track record of transforming complex datasets into actionable strategies, leading cross-functional teams, and deploying cloud-based platforms that scale from research to real-world operations.

PROFESSIONAL EXPERIENCE

GreenFlex (TotalEnergies Group) – Rome, Italy

Energy Data Manager | Oct 2023 – Present

- Process and optimize 100+ GB/month of energy data across 1,200+ industrial sites and supermarkets, reducing preparation time by 40%.
- Designed and implemented Python-based automation pipelines that cut reporting turnaround from 2 months to 2 days.
- Led PV system feasibility analyses for self-consumption, delivering energy-saving strategies adopted across multiple client facilities.

Consiglio Nazionale delle Ricerche (CNR) – Rome, Italy

Research Fellow & Assistant | Feb 2021 – Sep 2023

- Developed Fortran–Python hybrid algorithms for techno-economic sizing of tidal and offshore wind turbines; validated with experimental datasets.
- Launched 'TidalTools', a Django SaaS platform now used by 50+ academic and industry stakeholders for turbine design and analysis.
- Managed and mentored a team of 4 interns, delivering GUI tools (PyQT5) and PostgreSQL databases for project data tracking.
- Published research in the International Marine Energy Journal.

Apeiron Smart Systems (now Starnus Technology) – Eindhoven, Netherlands

Co-Founder & Software Developer | Jan 2021 – Jul 2021

- Co-founded and led the algorithmic R&D team, developing a swarm-robotics framework for modular, shape-shifting structures.
- Built multi-agent coordination algorithms in Python achieving real-time, collision-free formation control.
- Scaled development team from 3 to 6 engineers through structured sprints and code reviews.
- Ranked Top 5 finalist out of 200 teams in the TU/e Startup Contest (2021).

Earlier Roles

- Thesis Intern, CNR (2019–2020) – Created BEM-based turbine design algorithm in Fortran, validated with flume tests.
- Mechanical Engineer Intern, ASD Group (2017) – Designed 100 MW wind-farm layouts in WindPro, automated meteorological data cleaning (60% time saved).
- Intern, Mona Consultants (2016) – Supported escalator design/installation projects for metro stations in Iran.