Ceyhun Andaç

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WORK EXPERIENCE

KYOS Energy Consultancy B.V. | Quantitative Analyst/Developer — Haarlem, NL | 2022 – present

Developing quantitative models specifically on energy and commodity assets. This role is a mix of a quantitative developer and a quantitative analyst/researcher. Daily work is being busy with client support requests about the models already in use, maintenance and development of the quantitative models (existing or new). KYOS quantitative models give financial analysis and insights to traders or storage holders. The models are mostly in MATLAB and python programming languages.

- Maintenance of current financial models written in MATLAB and Python
- Creating new models/new features to the existing models
- Using Dynamic Programming, Monte Carlo methods and some other optimization methods for pricing and valuation
- In-house training courses on a range of topics, e.g. storage valuation, hedging etc.

Istanbul Technical University | Ph.D. Researcher/TA — Istanbul, TR | 2015 – 2022

Full time job in university (>30 hours a week) contains giving laboratory classes for freshman engineering and physics students. The laboratory classes and problem sessions for almost all topics of undergrad physics including numerical and computational methods in physics.

IPAG, Université Grenoble Alpes | Ph.D. Researcher — Grenoble, FR | 2020 - 2022

Ph.D. project in computational&theoretical high energy astrophysics, mainly with time series on signal processing and noise characterization in dense plasma content. I ran state-of-art codes for more than 200.000 CPU/hours in two different clusters using tools of HPC. I used python-based data analyzing tools along with python as the principal codding language (with its scientific libraries including numpy, pandas and scipy) and fortran and gnuplot on the side.

EDUCATION

Ph.D. in Physics/Astrophysics — Istanbul, TR/Grenoble, FR | 2023

Istanbul Technical University and IPAG, Université Grenoble Alpes

M.Sc. in Engineering Physics (Astrophysics) — Istanbul, TR | 2015

Istanbul Technical University

BA in Engineering Physics — Istanbul, TR | 2012

Istanbul Technical University

Coursework:
• Calculus • Linear Algebra • (Probability) Statistics and Thermodynamics I&II • C, Fortran Programming • Numerical&Computational Methods in Physics (with MATLAB, C++) •**Nonlinear Physics** • 2020 Astrosim Trainee (CINES, Montepellier, FR) • Linux Administration 1st level (ITU IT Department, Istanbul, Turkey) • Python / Django Training (2014 LKD Camp, Bolu, Turkey) • Various online lectures on **Financial Engineering**, **DeFi** and **trading/crypto**

WORKSHOPS & CERTIFICATES

IBM Data Science Professional | — (Online) | 2021

Coursera Online Specialization; 9 courses and a capstone project about DS, ML and various tools.

NVIDIA DLI - Fundamentals of Deep Learning | — (Online) | 2022

An online, all-day-long intense DL introduction to let academics jump start to the subject.

PUBLICATIONS AND PROJECTS

One may take a look at my **portfolio** (continously developing) on my website for a more detailed presentation.

- **4 journal articles** published in high impact journals, by using **analytical/numerical maths, data analysis, statistics, modelling and simulation of timing data, HPC methods and a lot visualization**; h index 3, more than 125 citations. The publications can be found in **orcid** or **ArXiv**. 2-3 more works in preparation.
- **Supervised a graduation thesis** with title: "Representation of complex plasma dynamics with ordinary differential equations by machine learning" using sparse identification method, 2021.
- Researcher in a project of NSF, Turkey about disc magnetosphere interactions of neutron stars, 2013-15.
- An ongoing self-project on **algorithmic crypto trading** with python and **Binance API**.

SKILLS

Languages: Python, MATLAB, Fortran, C, C++, SQL, bash

ML&Scientific: numpy, scipy, pandas, scikit-learn, jupyter-notebook, Maple, Mathematica, Excel

Visualization: matplotlib, seaborn, Gnuplot

Dev. Tools: Git, Latex, Markdown, SSH, SLURM

OS & Administration: GNU-Linux, Unix/MacOS, Windows

AWARDS & SCHOLARSHIPS

- French Government Co-tutelle Ph.D. Scholarship (for 3 years)
- STSM Grant of PHAROS - COST Action CA16214 as a visiting researcher (3 Months)
- 2019 IOAA Astronomy&Astrophysics Olympiads, National Team Leader

LANGUAGE

Turkish (Native), English (Fluent), Dutch (Beginner), French (Beginner)

PROFESSIONAL MEMBERSHIPS

Turkish Chamber of Physics Engineers, FMO

Istanbul Technical University Mountaineering Club, ITÜDAK

Mekansız Fizikçiler (a Turkish association of young physicists, co-founder)