Tel.: +357 99 802 998 | Email 1: D.chrysostomou@tudelft.nl | Email 2: dchrys01@outlook.com

Demetris Chrysostomou

D. Chrysostomou is driven by a passion for advancing artificial intelligence to solve complex real-world problems. His research focuses on developing innovative machine-learning methods that enhance decision-making, improve system efficiency, and enable robust, data-driven solutions in an increasingly complex energy landscape. With a strong foundation in applied AI, he aims to push the boundaries of intelligent systems in both academic and practical domains.

SKILLS

Artificial Intelligence

Machine Learning

Deep Learning

Graph Neural Networks

Recurrent Neural Networks

Long Short-Term Memory Units

Bayesian Neural Networks

Probabilistic Neural Networks

Ensemble Learning

Feature Fusion

Transfer Learning

Power System Operation

Power System Analysis

Distribution Network Flexibility

Power System Dynamics

Dynamic Equivalent Networks

Optimization

Dynamic Programming

Control Systems

Path Planning Algorithms

Natural Language Processing

Natural Language Understanding

Data Augmentation

LANGUAGES

Greek – Native Language

English – Fluent (IELTS C1)

WORK EXPERIENCE

Ph.D. Candidate – TU Delft   Oct. 2021 – Present

- Ph.D. in Machine Learning for Control Coordination for Transmission and Distribution Grid Operation Stability.
- AI Energy lab of IEPG Group.
- MegaMind project researcher:
  o Funded by the NWO.
  o Project partners: TU Delft, TU Eindhoven, Tilburg University, University of Twente, TNO, IBM, PWC, Transdev, Enexis, Stedin, Aliander, Smart State Technology, TenneT, Equans.
- Teacher Assistant on the "Intelligent Electrical Power Grids" MSc Course at TU Delft, 2022, 2023.
- Energy Expert at PWC "Data Analytics" Workshop in Amsterdam, the Netherlands, 2022.
- Workshop Tutor for "Graph Neural Networks in Power Systems" in AIT, Vienna, Austria, 2023.
- Supervisor for MSc thesis on "Data-Driven Adaptive Dynamic Equivalent of Active Distribution Networks."
- Secretary of TU Delft IEEE PES Chapter since 2024

R&D Intern – ABB Corporate Research   Mar. 2020 – Sep. 2020

- Research and Development at the Cyber-Physical Systems Group.
- Devised machine learning models and application logic for AI-assisted automated security testing for industrial automation systems.
- Designed software architecture for proof of concept (POC) and documented a technical summary.
- Utilized Artificial Intelligence, Natural Language Processing, and Natural Language Understanding.

Research Assistant – PSM Laboratory, UCY   Jun. 2015 – Aug. 2018

- Part-time participation in research projects.

External Evaluation Committee Member – CYQAA   May. 2018 – Jul.2018

- The Cyprus Agency of Quality Assurance and Accreditation in Higher Education.

Soldier– Cyprus National Guard   Jun. 2012 – Jun. 2014

EDUCATION

Robotics, Systems and Control MSc – ETH Zurich   Sep. 2018 – Jun. 2021
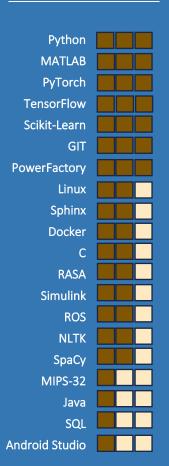
- Thesis: "Optimal learning task paths for neural networks"
  - Supervisors: Dr. Julian Zilly, Dr. Andrea Censi, Prof. Emilio Frazzoli
- Semester Project: "Impact of Inverter-Based Generation on Islanding Detection Schemes in Distribution Networks"
  - Supervisors: Dr. Uros Markovic, Dr. Petros Aristidou, Prof. Gabriela Hug
- Modules Include Autonomous Mobility on Demand, Dynamic Programming and Optimal Control, Recursive Estimation, Introduction to Machine Learning, Probabilistic Artificial Intelligence, System Identification, Theory of Robotics and Mechatronics, Linear Systems Theory.
- GPA 5.24 out of 6

Electrical Engineering BSc – University of Cyprus   Sep. 2014 – Jun. 2018

- Thesis: "AC Interference Study on DESFA Natural Gas Pipeline due to the Operation of a 20.8 MW Wind Park"
- Excellent Performance - GPA 9.03 out of 10

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TOOLS & LEVEL

Python	███
MATLAB	███
PyTorch	███
TensorFlow	███
Scikit-Learn	███
GIT	███
PowerFactory	███
Linux	██□
Sphinx	██□
Docker	██□
C	██□
RASA	██□
Simulink	██□
ROS	██□
NLTK	██□
SpaCy	██□
MIPS-32	█□□
Java	█□□
SQL	█□□
Android Studio	█□□

HOBBIES

Painting: Hosted two personal art exhibitions.

JOURNAL PUBLICATIONS

D. Chrysostomou, J. L. R. Torres and J. L. Cremer, "Tensor Convolution-Based Aggregated Flexibility Estimation in Active Distribution Systems", in IEEE Transactions on Smart Grid, 2024.

M. Chrysostomou, N. Christofides, **D. Chrysostomou**. "A Novel Machine Learning-Based Load-Adaptive Power Supply System for Improved Energy Efficiency in Datacenters". IEEE Access, 2021.

U. Markovic, **D. Chrysostomou**, G. Hug, P. Aristidou, "*Impact of Inverter-Based Generation on Islanding Detection Schemes in Distribution Networks*", Electric Power Systems Research (EPSR), 2021.

D. Chrysostomou, A. Dimitriou, N. Kokkinos, C. A. Charalambous *"Short-Term Electromagnetic Interference on a Buried Gas Pipeline Caused by Critical Fault Events of a Wind Park: A Realistic Case Study"*, IEEE Transactions on Industry Applications, 2020.

D. Chrysostomou, J. L. R. Torres and J. L. Cremer, "TensorConvolutionPlus: A python package for distribution system flexibility area estimation", Under Review.

CONFERENCE PUBLICATIONS

D. Chrysostomou, J.L.R. Torres, J.L. Cremer "Exploring Operational Flexibility of Active Distribution Networks with Low Observability," IEEE Powertech Belgrade, Serbia, 2023

TECHNICAL REPORTS

P. Aristidou, **D.Chrysostomou,** and C.A. Charalambous, "Assessment of the Loss-of-Mains/Anti-islanding protection for the Cyprus Distribution System". Adopted by the Distribution System Operator of Cyprus, 2019.

AWARDS

Leventis Foundation
Scholarship for the MSc of Robotics, Systems and Control.   2019 & 2020
Logicom Company
Scholarship for the MSc of Robotics, Systems and Control.   2018
Electrical and Computer Engineering Department, University of Cyprus
Best Thesis of 2018 Award.   2018
Electrical and Computer Engineering Department, University of Cyprus
Award for Excellent Academic Performance.   2018

ADDITIONAL PROJECTS

- Autonomous Mobility on Demand: Fleet Autopilot.
  o Focussed on Robot localization, movement planning, coordination, and precision.
- Creating a Computational Tool for Thermal Limits of Overhead and Underground Cables.
- Creating a Computational Tool Estimating Grounding Electrode Dimensions and Resistance.
  o Led to Desktop and Smartphone Applications.

MEMBERSHIPS

IEEE TU Delft PES Chapter – Secretary in 2024, 2025 and Among the Founding Members
IEEE TU Delft Student Branch – Member
IEEE Computer Society, Control System Society, and PES Society
- Graduate Student Member

GitHub   Linked in   Google Scholar