

Christos Melidis, PhD

AI & Machine Learning

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I'm a Machine Learning Scientist with over a decade of experience in AI, specializing in Conversational AI, including Speech, Natural Language Processing and Generation. With a PhD in Computer Science, focused on innovative Neural Network architectures for Robotics, I excel at transforming cutting-edge research into practical, real-world applications.

My role often bridges research and production, guiding projects from idea to deployment. This involves everything from initial concept development and requirements gathering with Product teams, to hands-on coding with Engineering teams. Driven by a passion for innovation and a commitment to excellence, I strive to stay at the leading edge of Generative and Conversational AI, delivering solutions that make a difference.

Programming Technologies:
pyTorch, TensorFlow,
Theano, Keras

Programming Languages:
C, C++, Java, Matlab, PHP

Scripting languages:
Python, JavaScript
(+jQuery), ActionScript,
Bash script

Mark-up languages:
HTML, XML, LaTeX

Query Languages:
SQL, noSQL

Operating Systems:
GNU/Linux, Windows

Experience

Ada Support LTD / Staff Machine Learning Scientist - R&D

[<https://www.ada.cx/>]

Feb 2024 - Present, Toronto [Remote]

Leading Generative AI efforts through Applied Research. Work resulted in 3 patents related to Conversational AI technologies. Worked end to end on conception, design and implementation (a) **Agent-based Conversation Modelling** (b) **Testing Methodologies & Performance Evaluation** (c) **AI Explainability methods** (d) **Design and Development of novel Knowledge Management methods**.

LLMs, Natural Language Processing, Generative AI. | Python, PyTorch,

Ada Support LTD / Sr. Machine Learning Scientist - R&D

[<https://www.ada.cx/>]

August 2021 - Feb 2024, Toronto [Remote]

Leading Generative AI efforts through Applied Research. Work resulted in 3 patents related to Conversational AI technologies. Worked end to end on conception, design and implementation **Automated Training Questions creation**, **Automated Chatbot Creation**, **Ada's Hybrid Chatbot solution**, **Ada's Generative Chatbot solution**, **Ada's Personalized Generative Chatbot solution**, **Fine-tuning LLMs**.

LLMs, Natural Language Processing, Generative AI. | Python, PyTorch

Omilia LTD / Sr. Machine Learning Specialist - R&D

[<https://omilia.com/>]

February 2020 - August 2021, Athens [Remote]

Designing and implementing novel **Machine Learning models** applied to **Voice Biometrics, Automated Speech Recognition, Natural Language Processing**. Also, involved in serving as well as maintaining the models. **Deep Neural Networks, Probabilistic Neural Models, Natural Language Processing, Voice Biometrics, Diarization.** | **Python, C++, PyTorch, Tensorflow**

Curation Zone LTD / Data Scientist

[<https://www.curationzone.com/>]

April 2019 - February 2020, London [Remote]

Working on **AI technologies** to identify the World's best filmmakers. **Deep Neural Networks, Natural Language Processing, Scoring and Data Management.** | **Python, BERT, ELMO, LSTMs, TensorFlow, RESTful API, MongoDB**

Stellanovus LTD / Lead AI Developer

[<https://www.stellanovus.com/>]

October 2018 - April 2019, Republic of Ireland [Remote]

Working on a **digital marketing platform** [<http://www.ainu.ai/>], using **Deep Neural Networks, Natural Language Processing.** | **Python, LSTMs, TensorFlow, RESTful API**

i-DAT / AI & Machine Learning Scientist

[<http://i-dat.org/>]

September 2017 - September 2018, UK [Remote]

Working on a **chatbot** engine with text comprehension, using **Neural Networks, Natural Language Processing.** | **Python, LSTMs, Keras, DialogFlow, Rasa**

University of Naples, Federico II / Research Scientist

[<http://www.nac.unina.it/nac/>]

June 2017 - September 2017, ITALY

Researcher Position under the supervision of prof. Davide Marocco. Working on a **Generative Adversarial Architecture** based on Echo State Networks, with applications to music generation. | **Python, LSTMs, Echo State Networks, Theano**

Plymouth University / Research Assistant

2015- 2017, UK

2 Projects | Research and Development of Neural Architectures for (a) **Sentiment Analysis** in Tweets and **Natural Language Processing** (b) **Explanation of Functional Disorders** | **Python, Tensorflow, RNNs**

3 Laboratories | Teaching MSc students "Robotics and Control", BSc students "Cross-platform application development in C++" and ""Parallel and Distributed Programming" | **CUDA, C, C++, Industrial Robotics**

VisualPulp / Web App Developer

Nov 2013 -Feb 2014, GREECE

Worked in the implementation of the **Front and Back end** of a scratch (game) engine for an online casino. My contribution to the project was spread across all the levels of implementation, **game-logic, game engine, interface and graphical environment**, and, last but not least, in the **security** aspects of the information exchange. | **Javascript, Angular, MongoDB, Bootstrap**

Education

University of Plymouth / Philosophical Doctorate in Computer Science, Artificial Intelligence and Robotics

2014 - 2017, UK

Thesis titled "*Adaptive Neural Architectures For Intuitive Robot Control*"

Thesis online, <https://pearl.plymouth.ac.uk/handle/10026.1/9998>

Project Page, <https://www.cognovo.eu/project-25>

Aristotle University of Thessaloniki / BSc in Informatics

2008- 2013, GREECE

Degree in Informatics with a speciality in Information Systems, Expert Systems, Database Management Systems, Grid Computing, Information Retrieval.

Thesis titled "*Reinforcement Learning in Robotics*"

Thesis online, <http://ikee.lib.auth.gr/record/132731/?ln=en>

International Publications

- Melidis, C., & Marocco, D. (2019). **Effective Behavioural Dynamic Coupling through Echo State Networks**. *Applied Sciences*, 9(7), 1300.
- Melidis, C., Denham, S. L., & Hyland, M. E. (2017). **A test of the adaptive network explanation of functional disorders using a machine learning analysis of symptoms**. *Biosystems*.
- Melidis, C., Iizuka, H. & Marocco, D., "Intuitive control of mobile robots: an architecture for autonomous adaptive dynamic behaviour integration", *Cognitive Processing*, Springer, (2017). doi:10.1007/s10339-017-0818-5
- C. Melidis and D. Marocco, "KURE: Kinematic universal remote interface a human centred remote robot control paradigm," 2016 IEEE International Conference on Systems, Man, and Cybernetics (SMC), Budapest, 2016, pp. 003130-003135.
- C. Melidis and D. Marocco, "KURE: a Two-Way Adaptive System for Intuitive Robot Control", 2016, Workshop on Behavior Adaptation, Interaction and Learning for Assistive Robotics, IEEE RO-MAN 2016, NYC, USA
- C. Melidis and D. Marocco, "A Human Centric Approach to Robotic Control", 2015 IEEE International Conference on Systems, Man, and Cybernetics, Kowloon, 2015, pp. 2441-2446. Doi: 10.1109/SMC.2015.427
- Melidis C., Marocco D. (2015) **An Exploration on Intuitive Interfaces for Robot Control Based on Self Organisation**. In: Headleand C., Teahan W., Ap Cenydd L. (eds) *Artificial Life and Intelligent Agents*. ALIA 2014. *Communications in Computer and Information Science*, vol 519. Springer, Cham

Patents

- [Systems and methods for generating a chatbot](#)
US [US11676044B1](#) Arnon Mazza, Christos Melidis Ada Support Inc.
Priority 2022-08-16 • Filed 2022-08-16 • Granted 2023-06-13 • Published 2023-06-13

- [Systems and methods for generating automatic training suggestions](#)
[US 20230297887A1](#) Armand Silviu Gurgu, Christos Melidis Ada Support Inc.
Filed 2022-12-15 • Published 2023-09-21

Conference Presentations

- "KURE: Kinematic universal remote interface a human centred remote robot control paradigm," 2016 **IEEE International Conference on Systems, Man, and Cybernetics (SMC)**, Budapest, Hungary
- "KURE: a Two-Way Adaptive System for Intuitive Robot Control", 2016, Workshop on Behavior Adaptation, Interaction and Learning for Assistive Robotics, **IEEE RO-MAN 2016**, NYC, USA
- "A Human Centric Approach to Robotic Control," 2015 **IEEE International Conference on Systems, Man, and Cybernetics**, Kowloon, Hong Kong
- An Exploration on Intuitive Interfaces for Robot Control Based on Self Organisation. **Artificial Life and Intelligent Agents. ALIA 2014**. Bangor, Wales, UK

Volunteer Work

Active Member of **Google Developers Group** Thessaloniki

Organiser of,

"Collaboratoire", Summer School
[<https://www.cognovo.eu/events/collaboratoire.php>]

"Build your own AI", Meetup series

6 University Projects | [LinkedIn](#)

7 International Publications | [ResearchGate](#)

3 Organisations visited | [LinkedIn](#)

3 Languages | Greek, English, German