

# Georgios Kampolis

## CONTACT

**Phone** not available in online version

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**Location** Glasgow, UK

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## EDUCATION

**EngD, Wind & Marine Energy Systems & Structures**

**2020–Present**

[University of Strathclyde](#), UK

- Research topic: Remaining useful life prediction and lifetime extension of wind turbine drivetrains using machine learning and signal processing methods.

**MSc Data Science Merit**

**Class of '19**

[Robert Gordon University](#), UK

- Dissertation: Automated zooplankton classification. Grade: A
- DataLab Scotland scholarship

**MSc Renewable Energy & Environmental Modelling Distinction**

**Class of '18**

[University of Dundee](#), UK

- Dissertation: Short-term wind speed forecasting. Grade: A

**MEng/ DipEng Mineral Resources Engineering 7.12/10**

**Class of '17**

[Technical University of Crete](#), Greece

- Dissertation: Study of the effect of Black Oil Tables generation methods on the accuracy of results from petroleum reservoir simulation. Grade: 10/10
- University scholarship for academic performance.

## RELEVANT EXPERIENCE

**EngD student - researcher**

**5/2020 – Present**

[Natural Power](#) & [University of Strathclyde](#), Glasgow, UK

- Research topic investigation in close collaboration with Natural Power as the industrial partner.
- Main research areas and focus:
  - Machine Learning, focusing on engineering applications
  - Signal Processing & Vibration Analysis
  - SCADA Data Analysis
  - Condition Monitoring
  - Predictive and Condition-based maintenance
  - Wind turbine component failure

**Data Scientist – Placement**

**6/2019 – 8/2019**

[Marine Scotland](#), [The Scottish Government](#), Aberdeen UK

- Created and delivered an automated zooplankton classification solution, increasing sample throughput and saving time required per analysis.
- Achieved an average gain in accuracy of 9.8% compared to existing solutions (3.12% vs the next best available), while automating a task that required 4 hours to an execution time of less than a second. Solution created using primarily R, tidyverse and mlr. Models used and tuned: XGBoost, Random Forest and as a surrogate, k-Nearest Neighbour.

## PUBLICATIONS

de Mello, E., **Kampolis, G.**, Hart, E., Hickey, D., Dinwoodie, I., Carroll, J., Dwyer-Joyce, R. and Boateng, A. (2021). Data driven case study of a wind turbine main-bearing failure. *Journal of Physics: Conference Series*, 2018 [012011]. DOI: [10.1088/1742-6596/2018/1/012011](#)

TECHNICAL SKILLS	<p><b>Programming Languages:</b> Python, R (tidyverse)</p> <p><b>Python:</b> NumPy, SciPy, Pandas, Scikit Learn &amp; Optimize, RapidsAI (cuDF, cuML, cuSignal), Matplotlib, Plotly, Streamlit</p> <p><b>R:</b> Tidyverse (particularly dplyr, ggplot, stringr, forcats, readr), mlr, forecast</p> <p><b>Databases &amp; ETL:</b> SQL, limited exposure to Neo4J Cypher (No-SQL) &amp; Microsoft SSIS</p> <p><b>Complementary Skills:</b> Git, Jupyter Notebooks/Lab, Docker, LaTeX, (R)Markdown</p> <p><b>Microsoft Office:</b> Word, Excel, PowerPoint, Outlook, Visio</p> <p><b>OS :</b> Windows, Linux (Arch Linux-based e.g. Manjaro, and Ubuntu-based e.g. Pop OS)</p>
FURTHER LEARNING	<p><b>Machine &amp; Deep Learning</b></p> <p><b>Deep Learning Specialization</b> – DeepLearning.AI, Coursera <span style="float: right;">In progress</span></p> <p><b>Neural Networks and Deep Learning</b></p> <p><b>Improving Deep Neural Networks</b> Hyperparameter Tuning, Regularization and Optimization</p> <p><b>Structuring Machine Learning Projects</b> Including intro to transfer learning</p> <p><b>Convolutional Neural Networks</b></p> <p><b>Sequence models</b> Recurrent NNs, Gated Recurrent Unit, Long short-term memory</p> <p><b>Applications of AI for Predictive Maintenance</b> – nvidia <span style="float: right;">12/2021</span></p> <p><b>Getting and Cleaning Data</b> – John Hopkins University, Coursera <span style="float: right;">07/2018</span></p> <p><b>Exploratory Data Analysis</b> – John Hopkins University, Coursera <span style="float: right;">06/2018</span></p> <p><b>R programming</b> – John Hopkins University, Coursera <span style="float: right;">05/2018</span></p> <p><b>Ethical &amp; Responsible Conduct</b></p> <p><b>Foundations in Responsible Research &amp; Innovation</b> – ORBIT <span style="float: right;">08/2021</span></p> <p><b>Focus on Peer Review</b> – Nature Masterclasses, Springer Nature <span style="float: right;">05/2021</span></p>
LANGUAGES	<p><b>Greek</b> Native</p> <p><b>English</b> Fluent</p>