Assoc. Prof. Dipl.-Ing. Dr.techn.
Alexander Helmut Jung

ORCID: orcid.org/0000-0001-7538-0990, **ResearcherID:** M-4407-2016
Date of birth: August 19, 1983   **Nationality:** Austria
Homepage: https://alexjungaalto.github.io/
May 14, 2023

Master Thesis Supervision at Aalto Univerity

1. L. Veneranta, *Machine Learning Applications in Media Industry*, industry: Sanoma Media, in progress. **sanoma**

2. Z. Liu, *Deep Learning based method for fire detection*, in progress.

3. M. Bogdanova, *Contextual bandits to improve staffing in consulting companies* , in progress.

4. T. Kulokoski, *Explaining Deep Learning to a Layman*, in progress.

5. C. Segercrantz, *Machine Learning for Banking Industry*, industry: Nordea Bank Oyj, in progress.

Nordea

6. J. Li, *TBA*, industry: aurobay.com, in progress.

7. H. Wang, *Physically based material capture and editable neural rendering*, industry: Huawei, in progress.

HUAWEI

8. G. Jiang, *Parallel Training of Neural Networks in 6G L1*, industry: Nokia Oy, in progress.

NOKIA

9. K. Lasocki, *Deep Learning for generating continuous melodies conditioned on lyrics and initial melodies*, in progress.

10. Z. Liu, *Deep Learning based method for fire detection*, in progress.

11. T. Vanhala, *Data-driven xVA exposure calculation for a portfolio of interest rate swaps*, industry: Nordea Markets, May 2023.

Nordea
MARKETS

12. A. Agisheva, *Reviewer Ethics in Machine Learning Research*, May 2023.

13. R. Tikkanen, *Machine learning for Fitness Tracker Data Integration*, industry: `https://fjuul.com/`, May 2023.

14. T. Hung Vu, *Deep learning-based Mammography Image Segmentation*, Mar. 2023. `https://aaltodoc.aalto.fi/handle/123456789/120211`

15. S. Johansson, *Classification of Purchase Invoices to Analytic Accounts with Machine Learning*, Jan. 2023. `https://aaltodoc.aalto.fi/handle/123456789/119486`

16. T. Sormunen, *Pallet Detection in Warehouse Environment*, industry: `https://www.wartsila.com/`, Jan. 2023. `https://aaltodoc.aalto.fi/handle/123456789/119397`

17. J. Himanen, *Towards a data-driven circular economy: predicting material streams in the construction industry*, Jan. 2023. `https://aaltodoc.aalto.fi/handle/123456789/119342`

18. T. Rahman, *Intrusion Detection system based on Deep Learning*, Aug. 2022. `https://aaltodoc.aalto.fi/handle/123456789/116391`

19. T. Gyabaah, *Artificial intelligence to support NFTs creation: Comparison of Machine learning algorithms to detect fraud in artwork*, industry: `https://www.blankt.com/`, Jul. 2022. `https://aaltodoc.aalto.fi/handle/123456789/116504`

20. J. Lillfors, *Networked Federated Learning*, Jul. 2022. `https://aaltodoc.aalto.fi/handle/123456789/116275`

21. A. C. Barcsa-Szabo, *Feature-based Approaches for Ethical News Personalization*, industry: Sanoma Media Finland (`https://media.sanoma.fi/`), Jul. 2022. `https://aaltodoc.aalto.fi/handle/123456789/116478`

22. C. Molinero Ranera, *Multi-label classification of a hydraulic system using Machine Learning*, Jul. 2022. `https://aaltodoc.aalto.fi/handle/123456789/116308`

23. V. Petrutiu, *Exploring Transformers and Degradation Methods in the Super Resolution Field*, industry: Huawei, Jul. 2022. `https://aaltodoc.aalto.fi/handle/123456789/118298`

24. P. Truong, *Crown-of-Thorns Starfish detection by state-of-the-art YOLOv5*, Jul. 2022. `https://aaltodoc.aalto.fi/handle/123456789/116281`

25. Y. Huang, *Text analysis of novel coronavirus pneumonia based on federal deep learning*, June 2022. `https://aaltodoc.aalto.fi/handle/123456789/115546`

26. C. Ozen, *A collaborative approach for large-scale Electricity consumption using Federated Learning*, June 2022. `https://aaltodoc.aalto.fi/handle/123456789/115282`

27. P. Prinsen, *Robust Gas pressure control using Neural Networks*, industry: Wärtsilä Finland Oy, Jan. 2022. `https://aaltodoc.aalto.fi/handle/123456789/112627`

28. E. Hattula, *Transfer Learning Technology for Building Extraction from Orthophotos and Open-Source Data*, industry: National Land Survey of Finland (`https://www.maanmittauslaitos.fi/en`), Jan. 2022. `https://aaltodoc.aalto.fi/handle/123456789/112450`

29. A. Channabasaiah, *Applying machine learning methods to predict taxi pickups using historical taxi data*, Jan. 2022. `https://aaltodoc.aalto.fi/handle/123456789/112871`

30. R. Hellström, *Aspect Based Sentiment Analysis in Finnish*, industry: Crowst Oy, Jan. 2022. `https://aaltodoc.aalto.fi/handle/123456789/112857`

31. M. Leinonen, *Federated Multi-task Learning over Networked Data*, June 2021. `https://aaltodoc.aalto.fi/handle/123456789/108261`

32. M. Uutaniemi, *Extraction of labeled fields from images of structured documents*, Aug. 2021. `https://aaltodoc.aalto.fi/handle/123456789/109305`

33. A. Orre, *Pedestrian movement analysis from drone perspective*, Dec. 2021. `https://aaltodoc.aalto.fi/handle/123456789/111730`

34. P. Vijayakrishnan, *Semi-supervised machine learning techniques for infant motility classification*, Oct. 2021. `https://aaltodoc.aalto.fi/handle/123456789/110565`

35. J. Seppälä, *Application of machine learning to link click predictions in Facebook Family of Apps advertising*, 2021. `https://aaltodoc.aalto.fi/handle/123456789/106829`

36. K. Kutlu, *Machine Learning based Chaos Engineering for Cloud-Native Microservice Architectures*, industry: Ericsson, Aug., 2021. `https://aaltodoc.aalto.fi/handle/123456789/109355`

37. K. Ariko, *Increasing the safety in the proximity of the mobile working machines: a study of detecting people*, industry: Epec Oy, Oct. 2021. `https://aaltodoc.aalto.fi/handle/123456789/110498`

38. M. Afteniy, *Predicting time series with Transformer*, May, 2021. `https://aaltodoc.aalto.fi/handle/123456789/107662`

39. Z. Mohammadi, *Better Utilization of Relational Data in Machine Learning*, industry: Lamia Oy, May, 2021. `https://aaltodoc.aalto.fi/handle/123456789/107604`

40. T. Nguyen, *Applying Machine Learning to Develop Black-box Control Model of Active Double-Skin Facade*, Aalto U., Jan., 2021. co-supervised with Prof. H. Ihasalo, `https://aaltodoc.aalto.fi/handle/123456789/102547`

41. P. Pyrrö, *AIR: Aerial Inspection RetinaNet for Land Search and Rescue Missions*, industry: Accenture, Jan., 2021, `https://aaltodoc.aalto.fi/handle/123456789/112856`

42. T. Kokkonen, *Classifying Restaurant Menu Items With Supervised Learning*, Jan. 2021. `https://aaltodoc.aalto.fi/handle/123456789/102433`

43. C. Dikmen, *Application of Contextual Bandits Models in a Supervised Learning Setting*, ,Aug. 2020. `https://aaltodoc.aalto.fi/handle/123456789/46314`

44. J. Laiho, *Recognizing Thoughts from Bioelectric Patterns? A Brain-Computer Interface with Deep Learning*, industry: Accenture Liquid Studio (NL), Aalto U., Aug., 2020. `https://aaltodoc.aalto.fi/handle/123456789/46105`

45. X. Zhang, *Diagnostic and Prognostic Analysis Optimization of Field Problems for EV Charging Stations*, industry: ABB, Aug., 2020. `https://aaltodoc.aalto.fi/handle/123456789/46045`

46. T. Hämmäinen, *Clustering IoT devices for network intrusion detection systems*, industry: Ericsson, May, 2020. `https://aaltodoc.aalto.fi/handle/123456789/44266`

47. T. Valentijn, *The Practical Applicability of a CNN for Automated Building Damage Assessment*, industry: Red Cross NL (`https://www.510.global/`), June, 2020. co-supervised with Dr. Jorma Laaksonen, `https://aaltodoc.aalto.fi/handle/123456789/44991`

48. J. Nieminen, *Framework for application of machine learning algorithms in telecommunications*, Nokia Oy, Mar. 2020. `https://aaltodoc.aalto.fi/handle/123456789/43572`

49. M. Mishin, *Anomaly Detection Algorithms and Techniques for Network Intrusion Detection Systems*, Ericsson, Aug. 2020. `https://aaltodoc.aalto.fi/handle/123456789/46076`

50. D. Tokmurzina, *Road marking condition monitoring and classification using deep learning for city of Helsinki*, Oct. 2020. `https://aaltodoc.aalto.fi/handle/123456789/47388`

51. I. Vikström, *Deep reinforcement learning approach for HVAC control*, industry: TietoEVRY Oyj, Dec. 2020. `https://aaltodoc.aalto.fi/handle/123456789/97613`

52. K. Klemets, *Forecasting Hourly Parking Occupancy with Multiple Seasonalities*, industry: City of Helsinki, Aug. 2020. `https://aaltodoc.aalto.fi/handle/123456789/45990`

53. J. Moisala, *Optimizing the mark-up of foreign exchange derivative contracts using machine learning*, May 2020. `https://aaltodoc.aalto.fi/handle/123456789/44353`

54. L. Kolehmainen, *A web scraping system for extracting news articles*, Vainu Finland Oy, Dec. 2019. `https://aaltodoc.aalto.fi/handle/123456789/41693`

55. T. Wiro, *Market influence on purchase prices in procurement*, industry: Sievo, June, 2019. `https://aaltodoc.aalto.fi/handle/123456789/39059`

56. J. Eskonen, *Deep Reinforcement Learning in Automated User Interface Testing*, Ericsson, May, 2019. `https://aaltodoc.aalto.fi/handle/123456789/37895`

57. A. Moskalev, *Demand forecasting for fast-moving products in grocery retail* , Relex, May, 2019, `https://aaltodoc.aalto.fi/handle/123456789/37915`

58. D. Baad, *Automatic Job Skill Taxonomy Generation For Recruitment Systems*, VXT Research Oy, June, 2019. `https://aaltodoc.aalto.fi/handle/123456789/38986`

59. K. Karapetyan, *Process Mining of Automation Services with Long Short-Term Memory Neural Networks*, industry: Posti Group Oyj, March, 2019. `https://aaltodoc.aalto.fi/handle/123456789/37178`

60. J. Kahles, *Applying Machine Learning to Root Cause Analysis in Agile CI/CD Software Testing Environments*, industry: Ericsson, Jan. 2019. `https://aaltodoc.aalto.fi/handle/123456789/36347`

61. H. Ambos, *Semi-Supervised Learning over Complex Networks*, Mar. 2019. `https://aaltodoc.aalto.fi/handle/123456789/37130`

62. M. Torres Porta, *Anti-Money Laundering system based on customer behavior*, Aug. 2019. `https://aaltodoc.aalto.fi/handle/123456789/39938`

63. A. Shehata, *Cellular Network Average User Throughput-Downlink Prediction by Machine Learning*, Nokia, Dec. 2018. `https://aaltodoc.aalto.fi/handle/123456789/35471`

64. O. Abramenko, *Graph signal sampling via reinforcement learning*, Nov. 2018. `https://aaltodoc.aalto.fi/handle/123456789/34750`

65. M.O. Nasir, *Supervised Learning in Lighting Control Systems*, Oct. 2018. `https://aaltodoc.aalto.fi/handle/123456789/34394`

66. D. Wu, *Unsupervised Learning for Lighting Control System*, Helvar Oy, Oct. 2018. `https://aaltodoc.aalto.fi/handle/123456789/34384`

67. N. Pokhrel, *Drone Obstacle Avoidance and Navigation Using Artificial Intelligence*, industry: Nokia, May 2018. `https://aaltodoc.aalto.fi/handle/123456789/31561` **NOKIA**

68. D. Koskeniemi, *Do financial networks improve the explanatory power of the Fama-French factors? A comparison of propagation algorithms on stock market returns* , Mar. 2018. `https://aaltodoc.aalto.fi/handle/123456789/30542`

69. S.B. Jahromi, *Compressed Sensing for Big Data Over Complex Networks*, Jan. 2018. `https://aaltodoc.aalto.fi/handle/123456789/29671`

70. A. Mara, *A Comparative Analysis of Graph Signal Recovery Methods for Big Data Networks*, Oct. 2017. `https://aaltodoc.aalto.fi/handle/123456789/28567`

71. Y. Gao, *Graphical Model Selection in Big Data Application*, Dec. 2016. `https://aaltodoc.aalto.fi/handle/123456789/23908`

Master Thesis Supervision at TU Vienna

1. B. Kausl, *Channel aware inference based on the Fisher information*, TU Vienna, 2012. co-supervised with Prof. Franz Hlawatsch,, `http://hdl.handle.net/20.500.12708/8885`