CURRICULUM VITAE

Cristian Axenie, Dr.

PERSONAL INFORMATION

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Citizenship	Romanian
Date of birth	14th of April 1986

ACADEMIC RECORD AND QUALIFICATIONS

as of October 2017	**Head of AKII Microlab (Artificial Intelligence and Virtual Reality)** at the AUDI Konfuzius Institute Ingolstadt, Ingolstadt, Germany
	Lecturer in **Artificial Intelligence and Machine Learning** at the Technical University of Ingolstadt, Germany
as of April 2017	**Senior Research Engineer** in Online Machine Learning and Big Data, Huawei European Research Center, Munich, Germany
2016 - 2017	**Postdoctoral Researcher** at Neuroscientific System Theory Group Neuroengineering Competence Center, Technische Universität München, Germany
2011 - 2016	**Ph.D.** in Neuroscience and Robotics (**Summa cum Laude**) Dept. Electrical and Computer Engineering, Technische Universität München, Germany
2009 - 2011	**M.Sc.** in Advanced Control Engineering and Robotics (**top 1%**) Electrical and Electronics Engineering Faculty, Dunărea de Jos University (UGAL), Galaţi, Romania
2005 - 2009	**B.Sc.** in Automation and Industrial Informatics (**top 1%**) Computer Science Faculty, Dunărea de Jos University (UGAL), Galaţi, Romania

RECOGNITIONS AND ACHIEVEMENTS

April 2018	**Awarded** the **nVidia GPU Grant** for a Neuromorphic Processing for Electric Autonomous Driving with Schanzer Racing Electric (SRE) team at Technical University of Ingolstadt.
January 2017	**Recognition in Microsoft Faculty Connection** for project demo at University of Cambridge Hackaton 2017 on Neural Computation for vision based elderly and seniors monitoring using MS Azure API.
January 2017	**Awarded a BayIntAn Fellowship (5000 EUR)** by the Bavarian Research Alliance for establishing a cooperation on the development of a platform for neuromorphic sensorimotor adaptation with ETH Zurich and University of California, Irvine.
July 2016	**Awarded a BayIntAn Fellowship (10000EUR)** by the Bavarian Research Alliance for establishing a cooperation on neurorobotics with University of Waterloo, Canada and the University of Manchester, UK.
June 2016	**Media coverage in Wired** about work on neuromorphic computation for visual rehabilitation at **Hack the Senses** contest in London, UK.

April 2016	**Awarded 1ˢᵗ prize** at the **Daimler Automotive Big Data Analytics Hackaton** for the design of a neuro-fuzzy learning system for adaptive anomaly detection.
April 2016	**Awarded special Microsoft Cognitive Technologies prize at the Burda Hackdays** for the development of a neural learning system for psychometric data analytics.
March 2016	**Awarded 1ˢᵗ prize (5000EUR)** in the **BMW Automotive Hackdays** for the development of an artificial intelligence learning agent for predictive maintenance.
July 2013	**Awarded Research Fellowship (2500EUR)** by the Science Network of Biomimetic and Biohybrid Systems for leading a workgroup at the Telluride Neuromorphic Cognition Engineering Workshop, USA.
May 2013	**Awarded Research Fellowship (2500EUR)** by the Science Network of Biomimetic and Biohybrid Systems for leading a workgroup at the CapoCaccia Cognitive Neuromorphic Engineering Workshop, Italy.
April 2013	**Awarded a Leonhard Lorenz-Stiftung Fellowship (7000EUR)** for novel ideas in neurotechnologies research.
April 2012	**Awarded a Bavarian Elite Research PhD Scholarship (4 years funding, ~120.000EUR)** by the Bavarian Ministry of Sciences, Research and the Arts.

WORK AND TEACHING EXPERIENCE

October 2017 - present	**Lecturer** in **Artificial Intelligence and Machine Learning** at **TU Ingolstadt**.
October 2011 - 2017	**Teaching assistant, Lecturer** in Computational Intelligence at **TU Munich**.
July 2009 - July 2011	**Software engineer** in embedded Linux development at **WindRiver** (**Intel**).
October 2009 – September 2011	**Teaching assistant** in Programming, Sensors and Instrumentation at **UGAL.**
July - October 2008	**Software engineer** in multi-core Digital Signal Processors (DSP) compiler development at **Freescale Semiconductor (NXP)**.

PUBLICATIONS

2 0 1 8

C. **Axenie**, R. Tudoran et al., STARLORD: Sliding window Temporal Accumulate-Retract Learning for Online Reasoning on Datastreams, IEEE ICMLA2018.

A. Becher, C. **Axenie**, T. Grauschopf, VIRTOOAIR: VIrtual Reality TOOlbox for Avatar Intelligent Reconstruction, 2018 IEEE International Symposium on Mixed and Augmented Reality (ISMAR).

D. Foroni, C. **Axenie** et al., Moira: A Goal-Oriented Incremental Machine Learning Approach to Dynamic Resource Cost Estimation in Distributed Stream Processing System, Twelfth International Workshop on Real-Time Business Intelligence and Analytics, VLDB2018.

I. Sugiarto, C. **Axenie**, J. Conradt, FPGA-based Hardware Accelerator for an Embedded Factor Graph with Configurable Optimization, Journal of Circuits, Systems and Computers, 2018. (PDF)

F. Mirus, C. **Axenie**, T. C. Stewart, J. Conradt, Neuromorphic Sensorimotor Adaptation for Robotic Mobile Manipulation: From Sensing to Behaviour, Cognitive Systems Research, 2018. (PDF)

2 0 1 7

C. **Axenie**, C. Richter, J. Conradt, A Self-Synthesis Approach to Perceptual Learning for Multisensory Fusion in Robotics, Sensors 16(10) 1751, 2017. (PDF)

2 0 1 6

I. Sugiarto, C. **Axenie**, J. Conradt, From Adaptive Reasoning to Cognitive Factory: Bringing Cognitive Intelligence to Manufacturing Technology, International Journal of Industrial Research and Applied Engineering, 2016. (PDF)

C. **Axenie**, C. Richter, J. Conradt, Neuromorphic models of sensorimotor adaptation and learning, Bernstein Conf. on Comp. Neuroscience, Berlin, 2016. (PDF)

2 0 1 5

C. **Axenie**, C. Richter, M. Firouzi, J. Conradt, Synthesis of Distributed Cognitive Systems: An Approach to Learning Multisensory Fusion, Bernstein Conf. on Comp. Neuroscience, Heidelberg, 2015. (PDF)
C. **Axenie**, J. Conradt, Learning Sensory Correlations for 3D Egomotion Estimation, Springer LNCS in Biomimetic and Biohybrid Systems, pp. 329-338, 2015. (PDF)

I. Susnea, C. **Axenie**, Cognitive Maps for Indirect Coordination of Intelligent Agents, Studies in Informatics and Control Vol. 24, 2015. (PDF)

2 0 1 4

C. **Axenie**, M. Firouzi, M. Mulas, J. Conradt, Multimodal sensor fusion for mobile robot egomotion estimation, Bernstein Conf. on Comp. Neuroscience, Göttingen, 2014. (PDF)

C. **Axenie**, J. Conradt, A model for development and emergence in multisensory integration, Bernstein Conf. on Computational Neuroscience, Göttingen, 2014. (PDF)

M. Firouzi, C. **Axenie**, J. Conradt, Multi-sensory cue integration with reliability encoding, using Line Attractor Dynamics, searching for optimality, Bernstein Conf. on Comp. Neuroscience, Göttingen, 2014. (PDF)

C. **Axenie**, J. Conradt, Cortically inspired sensor fusion network for mobile robot egomotion estimation, Robotics and Autonomous Systems, 2014. (PDF)

2 0 1 3

C. **Axenie**, M. Firouzi, J. Conradt, Multisensory Integration Network for Mobile Robot Self-motion Estimation, Bernstein Conf. on Comp. Neuroscience, Tübingen, 2013. (PDF)

C. **Axenie**, J. Conradt, Cortically Inspired Sensor Fusion Network for Mobile Robot Heading Estimation, Intl Conf. on Artificial Neural Networks, 2013, pp. 240-47. (PDF)

2 0 1 2

C. **Axenie**, J. Conradt, Synthesis of Distributed Cognitive Systems: Interacting Maps for Sensor Fusion, Bernstein Conference on Computational Neuroscience, München, 2012. (PDF)

2 0 1 0

C. **Axenie**, R. Solea, Real time control design for mobile robot fault tolerant control. Introducing the ARTEMIC powered mobile robot, Mechatronics and Embedded Systems and Applications (MESA), 2010 IEEE/ASME Intl. Conf. on, 2010, pp. 7 -13. (PDF)

C. **Axenie**, D. Cernega, Adaptive sliding mode controller design for mobile robot fault tolerant control, Robotics in Alpe-Adria-Danube Region (RAAD), 2010 IEEE 19th Intl. Workshop on, 2010, pp. 253-59. (PDF)

C. **Axenie**, "Mobile Robot Fault Tolerant Control. Introducing ARTEMIC." In the 9th International Conference on Signal Processing, Robotics and Automation Conf., University of Cambridge, UK, February, 2010. (PDF)

C. **Axenie**, Cernega Daniela, "Mobile Robot Fault Tolerant Control", IEEE/IACSIT ICIEE 2010 (International Conference on Information and Electronics Engineering), Shanghai, China, June 2010. (PDF)

C. **Axenie**, "A New Approach in Mobile Robot Fault Tolerant Control. Minimizing Costs and Extending Functionality", WSEAS TRANS. ON SYSTEMS AND CONTROL, 2010. (PDF)

2 0 0 7

Axenie Cristian, Stancu Alexandru, Zanoschi Aurelian, Pascalin Andrei, Perjeru Marius, Maftei Florentina, A Client-Server Based Real-Time Control Tool for Complex Distributed Systems, Proc. of 9th Real-Time Linux Workshop, Linz, Austria, November, 2007. (PDF)

PATENTS

2018   C. **Axenie** et al., A System for Higher-Order Stream Processing, 85664017.
        C. **Axenie** et al., Streaming Random Forest, 85680025.

2017   C. **Axenie** et al., Stream Feature Extractor, 85379618.

VARIA

as of 1992   Fanatic sportsman: from soccer to basketball, from biking to triathlons, and from greco-roman wrestling to rock climbing.

as of 1991   Passionate bookworm: from Isaac Asimov to Nietzsche, from Dostoyevski's realism to Kafka's metamorphosis, and from Jung's Red Book to Kandel's Principles of Neural Science.

as of 2000   Passionate tinkerer and maker, hacking from old game consoles to cars data buses; from building autonomous drones to programming Linux kernel drivers.

PROFESSIONAL MEMBERSHIPS

as of 2007   IEEE, Computational Intelligence Society.

as of 2011   Bernstein Association for Computational Neuroscience.

as of 2012   Free Software Foundation.

REFERENCES

Prof. Jörg Conradt
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