

Undervisningsportfolio

1. Undervisnings-CV: Oversigt over undervisnings- og vejledningsopgaver med angivelse af fagområder, omfang, undervisningsniveau (bachelor, kandidat, efter-/videreuddannelse, ph.d.). Type af undervisningsform angives, f.eks. forelæsning, holdundervisning, øvelse, vejledning, eksamination, censur, fjernundervisning, internetbaseret undervisning og evaluering af undervisning. Undervisningsprog angives.

Supervision of group projects: 20223studentsMAES 2.0: A ROS Compatible Simulation Tool for Multi Robot Exploration and CoverageSW10 (Distributed Systems) 20223studentsA Modeling Tool for System of SystemsSW10 (Distributed Systems) 20222 with Brian NielsenstudentsOffsetting Impermanent Loss Using Financial Derivatives in Smart ContractsSW10 (Distributed Systems) 20222 with Brian NielsenstudentsBlock Reorgs Mitigation in Ethereum Proof-of-StakeSW10 (Distributed Systems) 20222studentsDeveloping a Blockchain IoT SolutionBaIT-6T (Technologies) 20221studentsUsing the blockchain to manage reputation and in general fight fake newsSW9 (Distributed Systems) 20223studentsSimulating robot exploration algorithms in 3DSW9 (Distributed Systems) 20222 with Nicola CibinstudentsUsing smart contracts to support SBOM (software bill of materials) in development processesSW9 (Distributed Systems) 20222 with Daniele Dell' AgliostudentsComparing consensus mechanisms for blockchains in a smart gridSW9 (Distributed Systems) 20221 with Daniele Dell' AgliostudentsPolkadot-based blockchain to support energy communitiesSW9 (Distributed Systems) 20225studentsExperimental analysis of computation offloading using actionsSW7 (Internet Technologies) 20226studentsRobustness and scalability for computation offloadingSW7 (Internet Technologies) 20226studentsComparison of consensus mechanisms for the blockchain in the smart gridSW7 (Internet Technologies) 20214studentsConstraint-based Monitoring Framework for Distributed SystemsSW6 (B.Sc. Thesis) 20213studentsEXOGEM: Extending OpenAPI Generator for monitoring of RESTful APIsWS6 (B.Sc. Thesis) 20212studentsBLab - Bluetooth LabSW6 (B.Sc. Thesis) 20212studentsInvestigation of extensive downlink communication in LoRaWANSW6 (B.Sc. Thesis) 20213studentsccpp-tiny-clientSW6 (B.Sc. Thesis) 20214studentsOptiFit: Optimization of Sensor Utilization for Calisthenic Exercise Classification and Error DetectionSW6 (B.Sc. Thesis) 20213studentsComparison of Online Exploration and Coverage Algorithms in Continuous SpaceSW9 (Distributed Systems) 20213studentsMethodologies and Tools for System of Systems EngineeringSW9 (Distributed Systems) 20212 with Brian NielsenstudentsPlutus (A Glossary of Impermanent Loss Solutions)SW9 (Distributed Systems) 20212 with Brian NielsenstudentsBlockchains for Energy/Flexibility auctionsSW9 (Distributed Systems) 20206studentsRoutePlannerSW8 (Mobile Systems) 20201studentsRerouting via Waypoints in SUMODAT6 (B.Sc. thesis) 20201studentsMunin: A Trading Strategy Test SuiteDAT6 (B.Sc. thesis) 20203studentsStrategising RoboCup in Real Time with Uppaal StrategoDAT6 (B.Sc. thesis) 20204studentsMethod for Realistic Scenario Generation for SUMODAT6 (B.Sc. thesis) 20204studentsOffloading computation to mobile phonesSW7 (Internet Technologies) 20204studentsKarlog-IT monitorSW7 (Internet Technologies) 20206studentsExercise Session Assistant (ESA): A web-based tool to assist in physical exercise sessionsSW7 (Internet Technologies) 20205studentsModelling and code generation for an IoT system of systemsSW7 (Internet Technologies) 20196studentsMaking the Air Great AgainSW8 (Mobile systems) 20196studentsVirtual Reality ImmersionSW8 (Mobile systems) 20195studentsTactic -- Videogame tactics animationDAT4 (Language design) 20196studentsPivot -- The Language for Home AutomationDAT4 (Language design) 20195studentsGathering Data on Water Streams near AgricultureSW7 (Internet Technologies) 20196studentsAn IoT Data- and Device- Management Platform for Predictive MaintenanceSW7 (Internet Technologies) 20196studentsAn Online Marketplace for Sustainable CoffeeSW7 (Internet Technologies) Individual Bachelor thesis (not Denmark): 2019 Ricardo Jorge Cunha Alves: Water monitoring using Raspberry PI and webservices (Polytechnic Institute of Cavado & Ave, Portugal) 2018 Flávio Relvas: QoS in REST Arrowhead services (Polytechnic Institute of Porto, Portugal) 2018 Miguel Costa: House appliance energy management with IoT (Polytechnic Institute of Porto, Portugal) 2017 Rafael Teles Rocha: IoT systems for home automation (Polytechnic Institute of Porto, Portugal) 2016 Renato Ayres: Monitoring of QoS in service oriented applications (Polytechnic Institute of Porto, Portugal) 2016 Paulo Barbosa: Setting up QoS in service oriented applications (Polytechnic Institute of Porto, Portugal) 2016 Roberto Duarte: Implementation of fork-join paradigm on top of real-time Ethernet (Polytechnic Institute of Porto, Portugal) 2016 José Sousa: Publish subscribe communication in service oriented architectures (Polytechnic Institute of Porto, Portugal) 2016 Pedro Moura: High-performance data collection in industrial scenarios (Polytechnic Institute of Porto, Portugal) 2016 Joss Santos: Energy saving through virtual markets of energy, enabled by using service oriented architectures (Polytechnic Institute of Porto, Portugal) 2015 Fábio Oliveira: Simulation of real-time Ethernet (Polytechnic Institute of Porto, Portugal) 2015 Tiago Cerqueira: Vehicular communication and mobility models (Polytechnic Institute of Porto, Portugal) 2010 Jasmine del Vecchio: Design and implementation of LOGO for Miabot robots (University of Pisa, Italy) 2009 Davide Mascitti: Routing multi-attribute range queries on p2p networks (University of Pisa, Italy) 2009 Antonio Quartulli: Mobility and load adaptivity for p2p networks (University of Pisa, Italy) 2008 Luca Trovato: Simulation of MMORPG with Peersim (University of Pisa, Italy) 2008 Antonio Bruno: Additive Voronoi Diagrams for adaptive p2p networks (University of Pisa, Italy) Individual Master thesis (not Denmark): 2003 Marco Magnarosa: QoS for multicast transmission of multimedia data (University of Pisa, Italy) 2007 Martina Baldanzi: Range queries in p2p networks (University of Pisa, Italy) 2008 Claudio Vairo: SMEPP-Light: secure middleware for WSNs (University of Pisa, Italy) 2008 Salvo Ferraro: Protocol for density analysis in WSNs (University of Pisa, Italy) 2009 Luca Ferrucci: P2p networks based on multi-level Voronoi diagrams (University of Pisa, Italy) 2015 César Teixeira: Middleware for large-scale distributed systems (Polytechnic Institute of Porto, Portugal) Course teaching (Bachelor level): 2022, 2023 Programming of IoT Applications (Bachelor of IT) 2020, 2021, 2022, 2023 Internet and Web Programming (with Brian Nielsen) 2016, 2017, 2018 Computer Networks and Distributed Systems (Polytechnic Institute of

Cavado & Ave, Portugal) 2013 Computer Networking (Catholic University of Portugal, Portugal) 2009 Programming 2 (University of Pisa, Italy, with Marco Bellia) Course teaching (Master level): 2021, 2022 Specialization Course in Distributed Systems 2019, 2020, 2021, 2022 Distributed Systems 2017, 2018 Industrial data networking (Polytechnic Institute of Cavado & Ave, Portugal) Course teaching assistance (Bachelor level): 2021 Computer Architecture and Operating Systems 2019, 2020, 2021 Computer Architecture 2008 Operating System Languages Laboratory (University of Pisa, Italy) 2006 Introduction to Programming Laboratory (University of Pisa, Italy) 2005 Data Structure Laboratory (University of Pisa, Italy) 2005, 2006, 2008 Programming Fundamentals (Dept. of Mathematics, University of Pisa, Italy) 2002, 2003, 2004, 2005 Computing (University of Pisa, Italy) 2001, 2002, 2003, 2004 Concurrent Programming Laboratory (University of Pisa, Italy)

2. Administration og ledelse af uddannelse: Erfaring med uddannelsesledelse og –koordinering. Oversigt over studieadministrative opgaver, eksempelvis medlem af studienævn, studieleder, semesterkoordinator, fagkoordinator, akkreditering m.v. Erfaringer med planlægning af uddannelsesafvikling. Erfaring med udvikling af uddannelser. Deltagelse i udvalg, kommissioner m.m. vedr. uddannelse.

In 2008, I was the coordinator of the Science Communication of the Robotics Lab of the Pisa Science Fair. This involved acting as Science Communicator myself (giving presentations to teach computer science concepts such as algorithms, programming and sensors, to students with age 6-19), planning the material to be taught in the lab, teaching how to deliver presentations and classes to the staff of the Robotics Lab, mentoring them on how to interact with different types of students, and in general supporting the growth of my colleagues as educators. In Spring 2022, I was the semester coordinator for the 6th semester of the Bachelor in IT, Technology track (BaIT-6T).

3. Formel pædagogisk uddannelse: Oversigt over gennemførte universitetspædagogiske kursusforløb, PBL-kurser, workshops, udviklingsprojekter, kollegial supervision o.l. Udtalelse fra universitetspædagogikum. Deltagelse i konferencer om pædagogik og didaktik. Dokumentation i form af kursusbeviser, udtalelser m.m. vedlægges.

In Spring 2019, I took a course on Problem Based Learning (4 seminars of 2 hours each), offered at the Department of Computer Science of Aalborg University. In the period January 2020 - December 2020, I attended and completed successfully the Adjunkt pædagogikum course, which consists of 10 ECTS credits and is the official pedagogy education at Aalborg University.

4. Andre kvalifikationer: Bidrag til konferencer, debatindlæg, videnskabelige artikler om pædagogiske emner m.v. Kollegiasupervision, redaktørarbejde, erfaring som mentor og anden kompetenceudvikling.

While working as Chief of a Robotics Lab, I have experimented with different teaching strategies to reach students ranging from 6 to 19 years old using robots built with LEGO, and the work led to a paper [1] and to a Bachelor Thesis (Jasmine del Vecchio, B.Sc. Computer Science, thesis on "Design and implementation of LOGO for Miabot robots", graduated on 04/06/10). J. Del Vecchio, M. Albano, M. Righi, M. R. Laganà, and M. M. Massai, "Piccoli robot per riflettere insieme giocando," in Proceedings of the Convegno AICA sull' Informatica per la Didattica (DIDAMATICA 2009), (Trento, Italy), pp. 1-6, 2009.

5. Pædagogisk udvikling og forskning: Udvikling af nye kurser, undervisningsmateriale, undervisnings- og eksamensformer eller andet udviklingsarbejde. Didaktisk og pædagogisk forskning. Samarbejde med eksterne samarbejdspartnere.

As part of my pedagogy education at Aalborg University, I investigated into "hybrid lectures". While working at the Department of Technology of Polytechnic Institute of Cavado e Ave, I created the new module "Industrial Data Networking". In 2020, together with Brian Nielsen, I created the new module Internet Networking and Web Programming (IWP) for the 2nd semester at Aalborg University, and I renewed it one year later (2021) taking into account students' feedback. In Spring 2022, together with Dr. Junior Dongo, I created the new module Programming of Internet of Things Applications (PIA) for the 6th semester of the Bachelor in IT, Technology track (BaIT-6T) at Aalborg University.

6. Udtalelser om undervisningskompetencer fra foresatte og kolleger. Undervisningsevalueringer og eventuelle udmærkelser for undervisningsvaretagelse.

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7. Evt. personlige refleksioner og initiativer: Personlige overvejelser knyttet til undervisning og vejledning, ønsker til og planer for pædagogisk videreudvikling, planer for opfølgning på

undervisningsevalueringer m.v. Refleksioner over eget pædagogiske arbejde, dets målsætninger, metoder og gennemførelse. I refleksionen analyseres og motiveres dine pædagogiske aktiviteter i forhold til din pædagogiske forståelse og de studerendes læring. Tanker om undervisningsformen på Aalborg Universitet, der har et stort indhold af gruppeorganiseret projektarbejde og problembaseret læring (PBL).

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8. Andet.

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