1. BASIC INFORMATION

1.1. Personal details and contact information

Associate Professor
PhD, MSc, BEng

Name: Huber Flores
Place of birth: Guatemala, Guatemala City.
Nationality: Guatemalan.
Address: Narva mnt 18 (Delta Center,
Institute of Computer Science)
50409, Tartu Ülikool, Estonia.

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Homepage: http://huberflores.com/
ETIS profile: https://www.etis.ee/CV/Huber_Flores/eng/

Google Scholar: https://scholar.google.com/citations?user=M9gkFKUAAAAJ&hl=es&oi=ao

Researcher ID: https://orcid.org/0000-0003-4551-629X

CV date: 01/11/2024

Language skills

- Spanish — Mother tongue
- English — Excellent (speaking, writing and reading)
- Estonian — Intermediate (reading and writing)
- Finnish — Basic (reading)
- Japanese — Basic (reading and writing)

1.2. Titles appointed

Title: Docent (affiliate professor) — **Appointed: October 2018**
- University of Helsinki, Finland — **Granted: May 23, 2019**

1.3. Academic degrees

Degree: PhD in Computer Science — **Period: 2011- 2015**
- University of Tartu, Estonia
- The Hong Kong University of Science and Technology (PhD visiting student)

Thesis: *Service-oriented and Evidence-aware Mobile Cloud Computing*

Degree: MSc in Software Engineering — **Period: 2009- 2011**
(Jointly university program),
- University of Tartu, Estonia
- Tallinn University of Technology, Estonia

Thesis: *MCM: Mobile Cloud Middleware*

Degree: BEng in Computer Science — **Period: 2003- 2008**
(*1st graduated from his class*)
- University of San Carlos of Guatemala, Guatemala.

Thesis: *Ubiquitous Collaborative Learning*

1.4. Current position

July 2019 – Date	**Associate Professor of Pervasive Computing** University of Tartu, Estonia. Distributed and Pervasive Systems Group (https://dps.cs.ut.ee/)

1.5. Previous experience

January 2017 – August 2019	**Academy of Finland and Faculty Post-doctoral Researcher** University of Helsinki, Finland. NODES research / Pervasive Data Science Group
November 2015 – December 2016	**Post-doctoral researcher** University of Oulu, Finland. Center for Ubiquitous Computing (UBICOMP)
August 2011 – October 2015	**Research assistant** University of Tartu, Estonia.
October 2012 – November 2013	**Software developer & junior researcher** FP7 REMICS Consortium – University of Tartu Tartu, Estonia
September 2010 – August 2011	**Software developer & junior researcher** ELIKO (Competence Center in Electronics, Information and Communication Technologies) Tallinn, Estonia
January 2010 – August 2010	**Software developer & junior researcher** STACC (Software Technology and Application Competence Center) Tallinn, Estonia

1.6. Short background

Huber Flores is an Associate Professor of Pervasive Computing at the Institute of Computer Science, University of Tartu, Estonia, and a Docent (Affiliate Professor) at the University of Helsinki, Finland. Previously, he held the prestigious Academy of Finland Postdoctoral Fellowship and the Faculty of Science Postdoctoral Fellowship at the University of Helsinki. He has also been a member of UBICOMP at the University of Oulu, Finland, and SyMLab at the Hong Kong University of Science and Technology.

Prof. Flores has received numerous awards for his research excellence and innovative ideas, including *Scientist of the Year 2022* at the Institute of Computer Science, University of Tartu, and the Nokia Jorma Ollila Award (2018) from the Nokia Foundation. He has also been awarded the Tiger University Scholarship (2012, 2013), recognizing the top 5 students across all Estonian universities, and the

Young Scientist Grant for International Knowledge Exchange (2011, 2012) from the Archimedes Estonian Foundation and the Estonian Ministry of Education and Research.
An active member of the ACM (SIGMOBILE) and IEEE societies, Prof. Flores's research focuses on pervasive and mobile computing, distributed systems, and mobile cloud computing. He regularly publishes in top conferences like WWW, UbiComp/IMWUT, ICDCS, IPSN/IoTDI, CHI, PerCom, MobiSys, and journals such as ACM Transactions on Internet of Things, IEEE Pervasive Computing Magazine, IEEE Communications, and IEEE Transactions on Mobile Computing. He has served as an organizer and committee member for various prominent venues, including IEEE PerCom, ACM IUI, IJCAI, ECAI, and ACM MobiSys. Prof. Flores has also been a technical leader in several EU and Academy of Finland projects, including EU SPATIAL and AKA MAYA.

1.7. Other technical skills

- **Operating system:** Any Linux-based OS (preferable Debian distributions)
- **Programming Languages:** Java, Python, C, C++, PHP, Javascript, Erlang, Clojure
- **Frameworks:** Maven, SVN, Git, Heroku, Jenkins, Selenium, Gradle, Amazon AWS.
- **Other environments:** R, MathLab, Latex

2. RESEARCH AND SCIENTIFIC ACTIVITIES

2.1. Significant publications (5 most significant)

As the **lead author** of each of my most important publications, I contributed with the realization of the idea, its implementation and experimentation. Moreover, I played a significant role in the writing process of each article.

Impact: in terms of citations, my most significant publication (#1) has attracted above 200 citations.

1. **[IEEE COMMAG] H. Flores**, P. Hui, S. Tarkoma, Y. Li, S. N. Srirama, R. Buyya: Mobile Code Offloading: From Concept to Practice and Beyond, IEEE Communications Magazine, volume 53, pages 80-88, 2015, doi:10.1109/MCOM.2015.7060486
    - **Relevancy:** Explores the adoption of code offloading in existing architectures

2. **[IEEE TMC] H. Flores**, P. Hui, P. Nurmi, E. Lagerspetz, S. Tarkoma, J. Manner, V. Kostakos, Y. Li, X. Su: Evidence-aware Mobile Computational Offloading, IEEE Transactions on Mobile Computing, 2017, doi:10.1109/TMC.2017.2777491
    - **Relevancy:** Optimizes the decision to offload to cloud from mobiles by introducing community support to quantify the offloading context.

3. **[IEEE PerCom] H. Flores**, A. Zuniga, F. Faghihi, X. Li, S. Hemminki, S. Tarkoma, Pan Hui, P. Nurmi: COSINE: Collaborator Selector for Cooperative Multi-Device Sensing and Computing, In Proceedings of the IEEE International Conference on Pervasive Computing and Communications (PerCom 2020), Austin, Texas, USA, March 23-27, 2020. **(Acceptance rate 14.2%)**
    - **Relevancy:** Investigates how different smart and IoT devices can work together to form collaborative infrastructures for processing and sensing.

4. **[IEEE ICDCS] H. Flores**, X. Su, V. Kostakos, J. Riekki, E. Lagerspetz, S. Tarkoma, P. Hui, Y. Li, J. Manner: Modeling Mobile Code Acceleration in the Cloud, In Proceedings of the Annual IEEE International Conference on Distributed Computing Systems (ICDCS 2017), Atlanta, GA, USA, June 5-8, 2017. **(Acceptance rate 16.9%)**
    - **Relevancy:** Investigates the perception of users towards using the cloud to accelerate the performance of mobile applications.

5. **[ACM/IEEE IoTDI] H. Flores**, A. Zuniga, M. Radeta, Z. Yin, M. Liyanage, N. H. Motlagh, N. T. Nguyen, S. Tarkoma, M. Youssef, and P. Nurmi: SEAGULL: Low-Cost Pervasive Sensing for Monitoring and Analysing Underwater Plastics. In Proceedings of the ACM/IEEE International Conference on Internet of Things Design and Implementation (IoTDI 2024), Hong Kong, May 13-16, 2024.
    - **Relevancy:** Investigates the use of light sensors for the identification of plastic items underwater.

The rest of my publication can be found http://huberflores.com/publications.html

2.2. Research funding

Summary: Awarded the prestigious Academy of Finland Postdoctoral Fellowship (2018-2021) and the competitive Faculty of Science Postdoctoral Fellowship at the University of Helsinki's Kumpula Campus (2017-2020). Additionally, funding was secured through the IT Academy Programme for ICT Research Development to establish a research group at the Institute of Computer Science, University of Tartu, Estonia (2019-2023). Further funding was obtained within the EU Horizon framework, serving as a Work Package (WP) technical leader (2021-2024).

1. **Grant 1: Postdoctoral grant (Academy of Finland, September call 2017):** Research grant for Project *"MAYA: A Social-aware Utility MarketPlace for Self-organizing Computing at the Edge"* Funding period: 2018-2021. ***Application selected from 260 candidates (14% acceptance rate)*** [Amount 243K euros]

2. **Grant 2: Postdoctoral grant (University of Helsinki, Faculty call 2016):** Research grant for project "Social-aware Cross Device Sensing for Mobile Application Diffusion" to be conducted at Kumpula Science Campus (2+1 years), funding period: 2017 – 2020. ***Application selected from 228 candidates.*** [Amount 200K euros]

3. **Grant 3: IT Estonian Academy Research Programme (University of Tartu, Faculty recruitment call 2019):** Research seed funding for project "Foundations of Unmanned Aerial Pervasive Sensing Systems" to be conducted at Institute of Computer Science, funding period: 2019-2023. [Amount 1.25 million euros]

4. **Grant 4: EU SPATIAL Horizon 2020 (University of Tartu, WP3 Leader):** Research on trustworthy AI and cyber security applications, funding period: 2021-2024. [Amount 380K euros]

2.3. Research assessments and awards

- Supervised doctoral student (Agustin Zuniga) obtained Outstanding dissertation award at University of Helsinki (2023)
- Runner-up Best Demo Award at ACM HotMobile (2023)

- Scientist of the Year (2022), Institute of Computer Science, University of Tartu, Estonia.
- Nokia Jorma Ollila Award (2018)
- Dora 6 grant / students' semester abroad, Archimedes Foundation in Collaboration with the Estonian Ministry of Education and Research (2014)
- ACM SIGMOBILE Student Travel Grant, the 11th International Conference on Mobile System, Applications and Services (MobiSys 2013)
- IKTDK (Info- ja kommunikatsioonitehnoloogia doktorikool) doctoral school stipend 2013.
- ***(2 years in a row)*** Young Researcher Award - Tiigriülikooli vastus stipendiumitaotlusele/Tiger University Scholarship (2012/2013) and (2013/2014)
  - *This competition involves all Estonian Universities. The stipend is given just to the five top young researchers from the overall country.*
- European Social Fund's Doctoral Studies and Internationalisation Programme DoRa (2011/2015)
- ***(2 times)*** Participation of Young Scientists in International Knowledge Exchange (EST Dora 8 Scholarship), Archimedes Foundation in collaboration with the Estonian Ministry of Education and Research (2011 - 2012)
- Baltic Summer School Stipend, German Academic Exchange Service (DAAD), University of Rostock/Germany and Kaunas University of Technology/Lithuania (2010)
- Software Engineering Fellowship, Institute of Mathematics and Computer Science, University of Tartu (2009/2011)

2.4. Activities in the academic community

2.4.1. Conferences and workshops organization

- **MobiSys 2023:** The 21st ACM International Conference on Mobile Systems, Applications, and Services. – **Demo Chair**
- **HotPOST 2020:** 12th Workshop on Hot Topics in Social and Mobile Connected Smart Object (in conjunction with INFOCOM 2020) - **Chair**
- **PerCrowd 2020:** 3rd International Workshop on Context-Awareness for Multi-Device Pervasive and Mobile Computing (in conjunction with PerCom 2020) - **Chair**
- **PerCrowd 2019:** 2nd International Workshop on Context-Awareness for Multi-Device Pervasive and Mobile Computing (in conjunction with PerCom 2019) - **Chair**
- **SMC 2018:** Special track on Intelligent Internet of Things – **Chair**
- **PerCrowd 2018:** 1st International Workshop on Context-Awareness for Multi-Device Pervasive and Mobile Computing (in conjunction with PerCom 2018) - **Chair**
- **CHANTS 2017:** 12th Workshop on Challenged Networks (co-located with MobiCom 2017) - **Publicity chair**
- **SMC 2017:** Special track on Intelligent Internet of Things - **Chair**
- **IEEE Internet of Things Journal (IoT-J):** Special issue on "Opportunistic and Collaborative Multi-device Systems and Applications in the Internet of Things" - **Guest editor**

2.4.2. Other professional and technical committees

- **IEEE PerCom 2022, 2023, 2024 – TPC member**
- **ACM IUI 2019, 2020, 2021, 2022, 2023, 2024 – TPC member**
- **ACM UMAP 2021, 2022, 2024, 2024 – TPC member**
- **IEEE ICCCN 2020, 2024 - TPC Member**
- **ACM UbiComp/IMWUT 2021, 2022, 2023, 2024 - Reviewer**
- **VTC2018-Fall:** IEEE 88th Vehicular Technology Conference - **TPC member**
- **HotPOST 2018:** 10th International Workshop on Hot Topics in Pervasive Mobile and Online

Social Networking (co-located with INFOCOM 2018) – **TPC member**
- **Student Workshop** (co-located with ACM CoNEXT 2017) - **TPC member**
- **IPDPS 2019:** Workshops - **TPC member**
- **IEEE Journal of Selected Areas on Communications (JSAC):** Special issue on "Artificial Intelligence and Machine Learning for Networking and Communications" - **TPC member**
- **IJCAI 2019 – TPC Member**
- **IJCAI-PRECAI 2020 – TPC member**

2.4.3. Recognized reviewer

- IEEE Transactions on Mobile Computing, IEEE Transactions on Parallel and Distributed Systems, Computers and Electrical Engineering (Elsevier), Transactions on Emerging Telecommunications Technologies (Wiley), Simulation Modelling Practice and Theory (Elsevier), Software: Practice and Experience (Wiley), Journal of Systems and Software (Elsevier), Journal of Network and Computer Applications (Elsevier), IEEE Transactions on Cloud Computing, Wireless Networks (Springer), Pervasive and Mobile Computing Journal (Elsevier), Computer Communications Journal (Elsevier), Computer Networks (Elsevier), International Journal of Human-Computer Studies (Elsevier), IEEE Communications Magazine, IEEE Access, IEEE Communication Letters, Concurrency and Computation: Practice and Experience (Wiley), IEEE Transactions on Service Computing, IEEE Transactions on Network and Service Management, IEEE Internet of Things Journal, IEEE Network

2.5. Research collaborations

I conduct research in mobile, pervasive and cloud computing. Over the years, I have the privileged to established long term collaborations worldwide.

Internationally: As former member of SymLab, I also continue working with Prof. Pan Hui (The Hong Kong University of Science and Technology. Other collaborators I also have the pleasure to work with are Prof. Vassilis Kostakos (The University of Melbourne, Australia), Prof. Yong Li (Tsinghua University, China), Prof. Petteri Nurmi (University of Helsinki, Finland), Associate Professor Aaron Di Ying (TU Delft, Netherlands), Prof. Oresti Banos (University of Twente, Netherlands), Prof. Sokol Kosta (Aalborg University, Denmark), Prof. Rajkumar Buyya (The University of Melbourne, Australia) and Associate Professor Rajesh Sharma (University of Tartu, Estonia). These collaborations have contributed towards improving my research skills as an independent researcher.

Connections to Finland: As a former member of the NODES research program led by Prof. Sasu Tarkoma at the University of Helsinki, and a former member of the UBICOMP (Center of Ubiquitous Computing) at the University of Oulu, strong collaborations have been established and maintained. Continued work with Prof. Jukka Riekki, Associate Professor Xiang Su, and Associate Professor Simo Hosio has been instrumental in developing proposals for national research projects. These collaborations have led to several publications in top venues (see 2.1, publications #2 and #4).

2.6. Active participation in other scientific events

Annually, participation in leading scientific conferences such as ACM UbiComp, IEEE PerCom, ACM/IEEE IoTDI/IPSN, and ACM SenSys is a priority. Moreover, since 2013, engagement with collaborators has included annual workshops focused on sharing the latest ideas and developments in our

field. A key event in this context is the Future Computing and Networking (FCN) Series, which I attend each year (https://cpi-lab.github.io/fcn/).

These conferences and workshops have also provided opportunities to participate in other venues, including the Dagstuhl Seminar on the Internet of People, coordinated by Dr. Andrea Passarella (CNR – Pisa, IT), Prof. Jörg Ott (TU München, Germany), and Prof. Peter Reichl (Universität Wien, AT).

2.7. Scientific and social impact of research

Our research has been featured in several media outlets, nationally and internationally. Our recent research efforts have made significant social and scientific impacts, particularly highlighted by coverage in major outlets such as YLE in Finland and ERR in Estonia. In May 2024, YLE featured a smart ring technology developed by researchers, designed to detect drink spiking, emphasizing its potential to enhance safety during social outings.

YLE Finland News, **"Uusi keksintö voi turvata baari-illan: älysormus hälyttää, jos juomaan on ujutettu huumaavaa ainetta"**

This innovation was also covered by ERR, which in addition also reported on the nanodrones created by University of Tartu researchers for agricultural scouting, showcasing their potential to revolutionize crop inspection and management.

Furthermore, ERR's coverage of various innovative technologies, including a heat-sensing device capable of detecting hidden cameras, illustrates a commitment to enhancing public safety through advanced research. The insights shared through these platforms not only elevate public awareness of emerging technologies but also underscore the importance of research in addressing real-world challenges. The collaborative efforts between Estonian institutions and partners from Finland reinforce the impact of scientific endeavors across borders, highlighting a proactive approach to technology that benefits society at large.

2.8. Visions and personal development plans

Given the strategic importance of Artificial Intelligence for EU, our upcoming research agenda for the next 5 years is about improving sensor technology with AI. GENIE is part of this vision. The GENIE project aims to revolutionize sensor calibration by employing generative AI techniques to enhance the performance of low-cost sensors. Its primary objectives include benchmarking various generative methods to identify the most effective approaches for improving sensor accuracy, analyzing the impact of contextual factors on sensor data, and developing new calibration methods tailored for pervasive sensing technologies. By focusing on these objectives, GENIE seeks to address current limitations in sensor technology, ultimately enabling more reliable and precise data collection in applications such as healthcare, environmental monitoring, and smart agriculture. Through these efforts and collaborations with other researchers, e.g., FCAI in Finland, the project aspires to contribute to advancements in pervasive computing and foster innovative solutions for real-world challenges.

2.9. Other qualifications

It's my pleasure to be part of the following associations and research communities

- **Memberships:** *IEEE member, ACM member (**SIGMOBILE**),*
- Guatemalan Association of Engineers, Member No.9691.

3. TEACHING AND SUPERVISION

3.1. Teaching philosophy

Teaching: Information is just transformed into knowledge when concepts and theory are understood through practical experiences. Thus, I deliver lectures with practical uses cases in which students can relate how theory is applied in reality.

Continuous improvement of teaching skills: In my lectures, I primarily use the Socratic method, encouraging active participation and critical discussions around key topics. To keep students motivated, I illustrate how core concepts and principles drive the development of cutting-edge products in the market. I stay updated on the latest technologies and research findings through newsletters like the MIT and Harvard reviews and by attending scientific conferences, which allows me to continuously refine my lecture materials with current advancements and emerging challenges that resonate with students. Additionally, I am committed to enhancing my teaching skills by taking courses through MIT OpenCourseWare, Coursera, various university MOOCs, and pedagogical training offered by the University of Tartu.

3.2. Experience in undergraduate and postgraduate teaching and supervision

3.2.1. Teaching experience

My primary teaching areas include mobile networking and distributed systems, and as an Associate Professor, I am responsible for several core courses within multiple master's programs. Additionally, my expertise in mobile computing, networking, and cloud computing has led to invitations as a guest lecturer at various universities over the years.

Lecturer

- **2020-Date** Institute of Computer Science, University of Tartu, Estonia **(Course 1: Distributed Systems, Course 2: Pervasive Data Science Seminar)**

I am teaching the distributed systems a course which is a fundamental course in the curricula of computer science of University of Tartu. In addition, I am also coordinating the pervasive data science seminar, which seeks to explore the intersection between pervasive computing and data science fields.

- **2018 and 2019 /** Department of Computer Science, University of Helsinki, Finland. **(Course: Distributed Systems) – Together with Prof. Pan Hui**

I am teaching the distributed systems course which is a core course in the master curricula of University of Helsinki. The course focuses on fundamental concepts and principles of distributed systems. https://courses.helsinki.fi/en/csm13001/124911246

- **2017 /** Department of Computer Science, University of Helsinki, Finland. **(Course: Cloud-based Mobile Networking Seminar)**

I proposed the cloud-based mobile networking seminar for the second semester of 2017 at University of Helsinki. I was in coordination of all the activities of the course. The focus of the course was on

exploring techniques for merging mobile and cloud computing. This course was taught to students at master level. https://courses.helsinki.fi/en/csm13181/120661886

- **2015-2016/** Department of Computer Science, University of Oulu, Finland. **(Courses: Applied computing project)**

I delivered lectures about best software engineering practices to develop projects using control version system tools and continuous integration.

Teaching assistant and lecture

- **2010-2015/** Institute of Computer Science, University of Tartu, Estonia. **(Courses: Mobile Application Development, Mobile and Cloud Seminar)**

My main tasks were to develop projects for students and to give lectures about software engineering for mobile devices, specifically for Android OS.

- **2006-2007 /** Department of Mathematics and Department of Computer Science, University of San Carlos of Guatemala.**(Courses: Discrete mathematics, differential calculus)**

My main tasks were to grade exams, homework and develop exercises for students. I also was in charge to coordinate and give practical sessions to students.

- **2006-2007 /** Department of Mathematics and Department of Computer Science, University of San Carlos of Guatemala. **(Computer networks)**

I also was teaching assistant for the networking course. I was in charge to grade projects and deliver lectures.

3.3. Visiting lectures to other universities

I have been invited as guest lecture to different universities.

1. March 2017 - Guest Lecture at University of Oulu, Finland – Distributed Systems course organized by Dr. Xiang Su. Presentation: “Large-scale offloading in the Internet of Things”

2. April 2018 – Guest Lecture at Lancaster University, UK – Pervasive Data Science course organized by Dr. Petteri Nurmi. Presentation: “Crowd-based Mobile Data Modelling”

3.3.1. Supervision experience

I have supervised numerous theses across various universities, including 20 bachelor’s and 15 master’s theses, and I am currently co-supervising six doctoral theses. My primary role in thesis supervision involves guiding idea development, evaluating progress, and ensuring rigorous research methods and quality. As a personal supervision standard, each thesis includes deliverables such as experimental results and open-source code made available on GitHub. A summary of supervised students and their research topics is provided below.

Doctoral students

University of Tartu

1. **[Graduated]** Agustin Zuniga (Pervasive Data Science: From Data Collection to End-User Applications)
2. Farooq Ayoub (Estimating Energy Footprint with Thermal Sensing, 2020 – Date)
3. Zhigang Yin (Autonomous Recycling with Autonomous Pervasive Sensing, 2020 – Date)

4. Abdul-Rasheed Ottun (Explainable AI for Distributed and Federated Machine Learning, 2021-Date)
5. Mayowa Olapade (CityDrone: Massive Multi-Drone Systems for Environmental Monitoring, 2022 – Date)
6. Akintola Adeyinka (Smart Plants and Autonomous Ground Drones, 2023 – Date)
7. Kevin Post (Wearables for Healthcare computing, 2024 – Date)

Master students (Selection)
University of Helsinki (Graduated)
1. Agustin Zuniga (Analyzing the Impact of Performance on Apps Retention, 2018) Supervised together with Prof. Petteri Nurmi

University of Tartu (Graduated)
1. Perseverance Munga Ngoy (PHOENIX: Revisiting Cloudlet Development with Recycled Phones, 2024)
2. Hashim Hashimov (Modelling Energy Consumption using Thermal Imaging, 2022)
3. Hilary Emenike (Exploiting Human-emitted Thermal Radiation, 2021)
4. Kaarel Hanson (Context Sensor Data on Demand for Mobile Users Supported by XMPP, 2012)

Bachelor students (Selection)
University of Tartu (Graduated)
1. Mehis Taevere (Benchmarking an Underwater Optical System, 2023)
2. Henry Ots (Device-to-Device (D2D) Coupon Dissemination, 2017)
3. Enno Eller (Simplifying Mobile Social Media Authentication on Android, 2016)
4. Mihkel Visnapuu (D2D Computational Offloading, 2016)
5. Jaan Tohver (Gesture Ads for Smartphone Apps, 2016)
6. Kristiina Ritso (Scaling virtualized Smartphones Images in the Cloud, 2015)
7. Taavi Ilmjarv (Detecting User Reading Behaviour Using Smartphone Sensors, 2015)
8. Jakob Mass (Device to Device Automatic Pairing, 2014)
9. Lauris Kruusamae (Energy-aware Sensor Data Gathering, 2014)
10. Martti Marran (Generating Indoor Maps from Mobility Traces, 2013)
11. Tanel Tahepold (Context-aware Games in HTML5 with Microcontrollers, 2012)

3.4. Pedagogical approach and training

During my teaching assistant period, I have completed successfully the pedagogical training for lectures provided by the University of Tartu. This includes introduction to Moodle (http://moodle.ut.ee), and proprietary video software to record lectures (http://www.uttv.ee/esileht). In addition, I have been instructed in other like Moodle alternatives, such as OPTIMA (https://optima.oulu.fi/), which is course management web tool used at the University of Oulu. Regarding the design and development of teaching material, I always try to keep Wiki environments in which students can interact by adding content and asking questions. More recently, I also have been introduced to MOOCs for providing online video lecturing and tools, such as Panopto and Zoom.

3.5. Published study materials and use of educational technology

I am the main lecturer for two large-scale MOOC courses recently released to a broader audience, with certification signed by me. These courses, developed as part of the EU SPATIAL research initiative, aim to equip learners with foundational and advanced skills in developing trustworthy machine learning technologies. The "Advanced Trustworthy AI" course explores whether AI systems are non-

discriminatory, transparent, and resilient, offering practical methods for implementing trustworthy AI—essential knowledge for any AI developer. The "Trustworthy AI" course addresses the importance of trust in AI-driven decisions, emphasizing the risks of discriminatory, opaque, and vulnerable AI systems for businesses and users. Every organization using AI needs these insights to ensure their systems are dependable.

Trustworthy AI: https://courses.minnalearn.com/en/courses/trustworthy-ai/
Advanced Trustworthy AI: https://courses.minnalearn.com/en/courses/advanced-trustworthy-ai/

3.6. Strengths, development challenges and visions of one's teaching

Currently, I have developed teaching material that can be applied for courses such as mobile networking, Internet of Things and Distributed Systems. I am planning to use my current knowledge in MOOCs for providing my current material online for students. In addition, I also want to introduce my current lines of research in my courses. This includes multi-device systems and applications, and passive data analysis in crowd sensed data.

Personal references

If you want to know more about me, please feel free to contact any of my personal references. They will be happy to provide you more information.

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