Surname: Ouattara
First name: Issouf
Birthday: 28 Juin 1990
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Degrees/Studies

Oct 2018 – Oct 2025 **PhD Degree in Automation, Systems and Control Engineering**
Aalto University, Finland

Sep 2016-June 2018 **Master's degree in Space Robotics and Automation**
Espoo – Finland/Sweden Aalto University, Finland

Sep 2012-June 2016 **Bachelor's degree in Aeronautics and Astronautics**
Tainan - Taiwan National Cheng Kung University, Taiwan

Other Education and Expertise

Oct 2018 (*Online)* **Deep Learning Specialization /** DeepLearning.AI, Coursera

Sep 2011-Aug 2012 **Chinese Language Study – TOCFL Level 3**
Taipei - Taiwan Fu Jen Catholic University Language Center

Language Skills

English Professional /TOEFL (101/120) 2016
French Native Language
Chinese TOCFL Level 3
Dioula/Bambara Native Language

Current employment

Nov 2025 - Now **Robotics Software Engineer II –** Axon Public Safety Finland Oy
Espoo – Finland Developing software for advanced UAV and ground robots

Previous work experience

Oct 2018 - June 2025 **PhD Candidate** - Aalto University
Espoo – Finland **Degree Programme:** Aalto Doctoral Programme in Electrical Engineering.
Title: Mapping, tree detection, localization and autonomous flight of unmanned aerial vehicle in forest applications
Stage of the academic research career: Stage I

April 2022 **Consultant –** United Nations Capital Development Fund (UNCDF)
Ouaga – Burkina Faso Training in the **assembly and use of Drones** for civil use. The participants of the training were university students and government civil workers.

Sept-2022 **Guess lecturer – Université Virtuelle du Burkina Faso (UVBF)**

Ouaga – Burkina Faso	Teaching Introductory Course to Deep Learning (online)
Feb-2020 *Ouaga – Burkina Faso*	**Guess lecturer – Université Joseph Ki-Zerbo (UJKZ)** Teaching Introductory Course to Artificial Intelligence
June 2017- Dec 2017 *Espoo - Finlande*	**Software engineer intern–** Space System Finland (now Huld) Independent Software Verification and Validation (ISVV) for Space Payload Software. Support in the System fault analysis of a preliminary CubeSat Design.

TECHNICAL SKILLS

Programming

C/C++, Rust, Python, Matlab, Scilab, OpenCV, ROS2, GTSAM, G2O, ...

Methodologies: Simultaneous localization and mapping (SLAM), Kalman Filters, Optimization, System modeling, Path planning, Deep Learning

Teaching contributions

Sept 2024 – Dec 2024 **Sept 2023 – Dec 2023** **Sept 2022 – Dec 2022** *Espoo – Finland*	**Teaching assistant –** Aalto University **Course title**: ELEC-E8107 Stochastic models, estimation, and control-D **Role:** Designing and teaching exercise sessions
Mars 2022 – April 2022 *Espoo – Finland*	**Laboratory instructor –** Aalto University **Course title**: ELEC-C1310 - Laboratory exercises in Automation and Control Engineering. **Subject title**: Sensor Fusion with Kalman Filter
Jan 2022 – May 2022 *Espoo – Finland*	**Bachelor Thesis instructor –** Aalto University **Title**: Unmanned aerial vehicles (UAVs) navigation in forest environment.
Sept 2021 – Jan 2022 *Espoo – Finland*	**Bachelor Thesis instructor –** Aalto University **Title**: The use of unmanned aerial vehicle in forestry in Europe
Jan 2021 – June 2021 *Espoo – Finland*	**Project Course instructor –** Aalto University **Course title:** ELEC-E8004 Project work course **Students' Project title**: Open source drone-software and UAV platform

Publications

Issouf Ouattara, Arto Visala, "Real-time mapping of forest environment using a UAV equipped with a Lidar and IMU". (**Submitted to a journal**, May 2025, under review)

Issouf Ouattara, Arto Visala, "PSV-LCD: Point cloud Surface Variation based Loop Closure Detection". 8th IFAC Conference on Sensing, Control and Automation Technologies for Agriculture

AGRICONTROL 2025, IFAC-PapersOnLine, https://doi.org/10.1016/j.ifacol.2025.11.779

Ouattara, I., Hallikas, J., Hyyti, H. and Visala, A. (2025), Towards a Semiautonomous Young Spruce Forest Late Cleaning. Journal of Field Robotics. https://doi.org/10.1002/rob.22539

Tabish Badar, **Issouf Ouattara**, Juha Backman, Arto Visala, Estimation of the height profile of the path for autonomous driving in terrain, Computers and Electronics in Agriculture, Volume 219, 2024, 108806, ISSN 0168-1699, https://doi.org/10.1016/j.compag.2024.108806

Tabish Badar, **Issouf Ouattara**, Juha Backman, Arto Visala. Estimation of 3D form of the Path for Autonomous Driving in Terrain*, IFAC-PapersOnLine. Link: https://doi.org/10.1016/j.ifacol.2023.10.1264

Issouf Ouattara, Vesa Korhonen, Arto Visala. LiDAR-odometry based UAV pose estimation in young forest environment, IFAC-PapersOnLine. Link: https://doi.org/10.1016/j.ifacol.2022.11.121

Issouf Ouattara, Heikki Hyyti, Arto Visala, Drone based Mapping and Identification of Young Spruce Stand for Semiautonomous Cleaning. IFAC-PapersOnLine. Link: https://doi.org/10.1016/j.ifacol.2020.12.205

S. Malo, T. R. Bayala, **I. Ouattara** and A. Visala, "Cashew Trees Detection And Yield Analysis Using UAV-Based Map," *2021 16th Iberian Conference on Information Systems and Technologies (CISTI)*, Chaves, Portugal, doi: 10.23919/CISTI52073.2021.9476517

Kai-Chun wu*, **Issouf Ouattara**, Gary Quinsac, Jordan Vannitsen, Jiun-Jih Miau, Jyh-Ching Juang, Boris Segret. “Dynamic control of a CubeSat Attitude and Orbit Control System (AOCS) with propulsion for Deep-Space missions”. 7th Nano-Satellite Symposium and the 4th UNISEC-Global Meeting. Link: https://events.castra.org/index.php/unisec2016/unisec2016/paper/view/5/28