

Vaibhav Kulkarni

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RESEARCH INTERESTS	Location-privacy preserving systems, Signal Processing & Machine Learning	
EDUCATION	University of Lausanne, Switzerland <i>Ph.D. Candidate, Information Systems</i> <i>Advisor: Prof. Benoît Garbinato</i>	2015-Present
	Technische Universiteit Eindhoven, Netherlands <i>M.Sc.(Honors), Embedded Systems</i> <i>Advisor: Dr. Majid Nabi</i>	2014-2015
	Technische Universität Berlin, Germany <i>M.Sc.(Honors), Information Systems & Communication Technology</i> <i>Advisor: Dr. Vlado Handziski</i>	2013-2015
	EIT Digital <i>Minor, Business and Entrepreneurship</i> <i>Advisor: Dr. Raymond Opdenakker</i>	2013-2015
	Goa College of Engineering, Goa University <i>B.Eng., Electronics & Telecommunication</i> <i>Advisor: Chetan Desai</i>	2008-2012
RESEARCH EXPERIENCE	Privacy Aware Mobility Prediction <i>UNIL, Lausanne-Switzerland</i>	November 2015
	Facilitating Wireless Coexistence Research <i>ETH Zürich, Switzerland</i> Master Thesis (Advisor: Prof. Friedemann Mattern)	August 2015
	Trickle Scanning: An Energy Efficient Multi-Channel Communication Approach in Low Power Networks <i>University of Twente, Netherlands</i>	December 2014
	An Experimental Study of Controllable Interference Generation Techniques in IEEE 802.15.4 Networks <i>TU Eindhoven, Netherlands</i>	September 2014
	Virtual Instrument Control using WSN <i>TU Berlin, Germany</i>	March 2014
	Indoor Localization and Surveying for Mobile Swarm Robots <i>Goa University</i>	2012
	Autonomous Underwater Vehicle (AUV) for Modeling Ocean Currents Project Intern <i>National Institute of Oceanography, Goa India</i>	2011

PUBLICATIONS V. Kulkarni, B. Chapuis, B. Garbinato. "Privacy-Preserving Location-Based Services by using Intel Software Guard Extensions"(to appear). ACM International Workshop on Human-centered Sensing, Networking, and Systems (**HumanSys@ACM Sensys-17**), Delft, Netherlands.

V. Kulkarni, A. Moro, B. Chapuis, B. Garbinato. "Extracting Hotspots without A-priori by Enabling Signal Processing over Geospatial Data"(to appear). 25th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (**ACM SIGSPATIAL 2017**), LA - California, USA

B. Chapuis, A. Moro, V. Kulkarni, B. Garbinato. "Capturing Complex Behaviour for Predicting Distant Future Trajectories". 5th ACM SIGSPATIAL International Workshop on Mobile Geographic Information Systems (**MobiGIS'16@Sigspatial**), San Fransisco, California, USA

V. Kulkarni, A. Moro, B. Garbinato. "MobiDict–A Mobility Prediction System Leveraging Realtime Location Data Streams". In 7th ACM SIGSPATIAL International Workshop on GeoStreaming (**IWGS@Sigspatial**) 2016, San Fransisco, California, USA

A. Hithnawi, V. Kulkarni, S. Li, H. Shafagh." Controlled Interference Generation for Wireless Coexistence Research". In **SRIF@ACM Mobicom** 2015, Paris-France.

V. Kulkarni, A.Moro, B.Garbinato."Poster:A Mobility Prediction System Leveraging Realtime Location Data Streams". In Proceedings of the 22nd ACM International Conference on Mobile Computing and Networking (**MobiCom'16**), New York, USA

TEACHING

Teaching Assistant, UNIL

- Algorithms and Computational Thinking Winter 2017
- Informatique II Spring 2017
- Algorithms and Computational Thinking Spring 2016
- Introduction to Distributed Systems Winter 2016
- Introduction to Distributed Systems Winter 2015

Teaching Assistant, Goa University

2012

- Embedded Systems
- Peripheral Devices and Interfacing
- VLSI Design

Mentoring Master Thesis

- Yannick Patschke – Applying machine learning for generating synthetic geospatial trajectories (September 2017)
- Viktor Komplita – Leveraging trusted execution environments for privacy aware mobility prediction (September 2017)

WORK EXPERIENCE

Work Student, Inventrom Robotics

2009-2011

- Design and Development of Embedded Platforms for all terrain, swarm and marine robots
- Quality Assurance, Testing of Embedded Boards used in Autonomous Surface Vehicles

AWARDS

- Zeno Karl Schindler Foundation, Geneva - Switzerland: Master Thesis Grant
- EIT ICT Labs, Stockholm: Mobility Scholarship
- Winner, Business Plan Challenge: Aalto University, Helsinki
- Goa Scholars: Scholarship for Master's Education, Govt. of India
- Bachelor Thesis Grant: Dept. of Science & Technology, Goa

TECHNICAL SKILLS

Programming languages: C/C++, Python, nesC, Bash

Operating Systems: UNIX, Contiki OS, Tiny OS

Implementation Platforms:

- Simulation: Cooja, OMNeT++, Matlab
- Software Defined Radios: USRP, GNURadio
- Embedded Development: x86, 8051, MSP430, AM335x, BCM2835, AVR & PIC
- VHDL, Xilinx ISE Tools, Xilinx EDK

MISC

Languages: English(Fluent), German (B1), French (A2), Hindi (Native)