ILIA KEMPI

Rantaharju 10 F 172, 02230 Espoo
+358 442356562 | contact@iliakempi.com

EXPERTISE

◊ Electronics, Digital IC design, FPGA programming, Signal processing, Embedded systems, PCBA assembly and rework, Technical drawing, Electromagnetic compatibility, Radiation safety ([ST1.8](ST1.8))

◊ C, C++, Java, Python, VHDL, Asm, Tcl, Linux, Bash, Chisel HDL, Clash HDL

◊ Cadence Innovus, Synopsys Design Compiler, Xilinx Vivado, Altium, KiCAD, MATLAB

EDUCATION

2018 –	D.Sc. (Tech.) in Electrical Engineering Aalto University, Finland Teaching assistant activity
2015 – 18	M.Sc. (Tech.) in Nano and Radio Sciences Aalto University, Finland 120 / 120 ETSC | GPA 4.23 / 5.0
2011 – 15	B.Eng. in Electronics Metropolia UAS, Finland 285 / 240 ETSC | GPA 4.9 / 5.0 Peer tutor activity Teaching assistant activity
2013 – 14	Student exchange (Mechatronics project) Akita National College of Technology, Japan
2010 – 11	Electrical and automation technology Vocational College of Oulu, Finland GPA 2.7 / 3.0 Studies discontinued
2005 – 09	Electrical mining machines (vocational program) Petrozavodsk State University, Russia GPA 4.5 / 5.0 Merit Scholarship Class president activity

I've been inspired by technology ever since playing with my first toy constructor.

When at work, my main objective is to use given resources efficiently and with the right attitude. For me every project is an exciting opportunity to learn something new.

In free time I practice martial arts, read books and watch movies.

WORK EXPERIENCE

11.2018 –	Aalto University, Espoo, Finland Doctoral candidate, Electronics	
3.2016 – 10.2019	RESKI Oy, Helsinki, Finland Co-founder, Hardware engineer	
6.2017 – 11.2018	Aalto University, Espoo, Finland Research assistant, Electronics	
9.2016 – 11.2018	Lassila & Tikanoja, Espoo, Finland Cleaner	
5.2015 – 12.15, 4.2016 – 8.16	KONE Corp., Hyvinkää, Finland Traniee, Signalization R&D	
2011 – 15	Various part-time cleaning and service jobs Helsinki capital area, Finland	
6.2008 – 8.10	CityLink LLC, Kostomuksha, Russia Technical support	

PATENTS

- **Co-author:** Mäkela K, Kempi I, (2018) *Elevator call input device*, International Application No.:PCT/EP2017/051982

PUBLICATIONS – LEAD AUTHOR

- Kempi I, Ahmed N, Hammer A, Olabode O, Unnikrishnan V, Kosunen M, Ryynänen J, *Resilient flow control for wireless data streaming in inductively coupled medical implants* (2019) Microprocessors and Microsystems, Volume 72, doi:10.1016/j.micpro.2019.102905

- Kempi I, Ahmed N, Hammer A, Olabode O, Unnikrishnan V, Kosunen M, Ryynänen J, *A Low-Power Hardware Stack for Continuous Data Streaming from Telemetry Implants,* 2018 IEEE Nordic Circuits and Systems Conference (NORCAS), doi:10.1109/norchip.2018.8573522
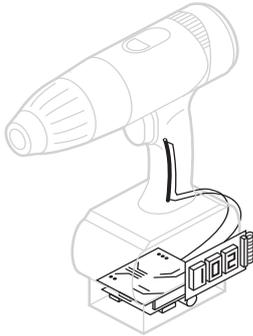
LANGUAGE SKILLS

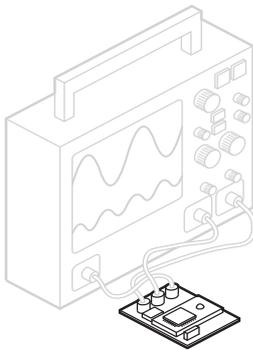|	
FINNISH	fluent
ENGLISH	excellent
RUSSIAN	native
JAPANESE	conversational

EXAMPLE PROJECTS

Torque meter for calibration of winding brakes

Device is developed in Metropolia UAS for ABB as an industrial innovation project. This meter can be used to calibrate brakes with certain level of precision.

My contribution is design and implementation of current sensing circuitry together with shielding enclosure. I have made measurement program based on TI MSP 430 microcontroller and successfully evaluated the drill motor characteristics. I also actively participated in further improvement and calibration of the system, which led to production of standalone measurement device as a proof of concept.

Teaching platform for Digital Signal Processing

Customizable signal processor with frond end user interface has been developed for hands-on laboratory exercises in Digital Signal Processing course at Metropolia Polytechnic.

My contribution is firmware design for the whole system. With an ARM Cortex M3 microcontroller I set up a processing unit which is addressable with remote procedure call. Based on MATLAB environment, I developed an interface, in which the student can configure and test DSP algorithms. Also took part in mass assembly of set of platforms and supervised trial laboratory works.

More information on my website : iliakempi.com

RECOMMENDATIONS

Thierry Bails

D.I. Electronics, eMBA
Senior Lecturer
Metropolia UAS

Ilia is a dedicated student and thus far his grades have been exemplary. In class, he has proven to be a take-charge person who is able to successfully develop plans and implement them. Ilia has also assisted us in our administrative tasks. He has successfully demonstrated leadership ability by counselling new and prospective students. His advice has been a great help to these students, many of whom have taken time to share their comments with me regarding his pleasant and encouraging attitude.

Heikki Valmu

Dean (Business and
Electrical Engineering),
Principal Lecturer,
Metropolia UAS

Mr. Kempi is definitely one of the best and most active students in his study group. His overall grades are among the best ever in our degree programme. He has as well extremely good practical hands-on electronics skills and he is considered as a very cooperative student by his classmates as well as all the teaching staff of the degree programme.