

# Program of the 14<sup>th</sup> Prague Embedded Systems Workshop

Thursday, June 25

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| 12:00-13:30                 | Lunch   |
| 13:30-13:50                 | Opening   |
| 13:50-14:50                 | <b>Keynote – Marco Ottavi</b><br><i>(University of Rome Tor Vergata, Italy; University of Twente, Netherlands)</i><br>Quality, Reliability, and Security: Intertwined Challenges in Dependable Computing Systems                                  |
| 14:50-15:10                 | Coffee break  |
| 15:10-16:10<br>(2x 30 min.) | <b>Session 1 – Dependability &amp; Cryptography. Chair: Robert Hülle</b>  |
|                             | <i>Michal Žáček, Petr Fišer, and Jan Schmidt (FIT, CTU in Prague, Czech Rep.)</i><br>The D-metric Revisited: SAT-Based Way to Counter Common-Mode Failures  |
|                             | <i>Michal Vojáček and Martin Novotný (FIT, CTU in Prague, Czech Rep.)</i><br>Efficient Hardware Sampling for Lattice-Based Signatures   |
| 16:10-16:40                 | <b>Industrial Talk – Petr Gallus (UJP Praha, Czech Rep.)</b><br>Building Radiation-Tolerant Detector Systems: From Sensors to Qualification   |
| 16:40-17:00                 | Coffee break  |
| 17:00-18:30<br>(3x 30 min.) | <b>Session 2 – Machine-Learning Applications. Chair: Jan Schmidt</b>  |
|                             | <i>Hao Ze Khor, Viola Schneider, and Stefan Krämer</i><br><i>(Ostbayerische Technische Hochschule Regensburg)</i><br>UWB Indoor Positioning Methods for Tracking Visually Impaired Boulderer Position   |
|                             | <i>Ilias Sertaridis, Vojtěch Mrázek, and Georgios Zervakis</i><br><i>(Brno University of Technology, National Technical University of Athens)</i><br>Highly Accurate Printed Sequential SVMs  |
|                             | <i>Andrei Kojukhov, Sapir Shenhav, and Ilya Levin</i><br><i>(Holon Institute of Technology, Tel Aviv University)</i><br>From Meta-AI Skills to Decision Sovereignty: Using an Explainable Multi-Agent Platform to Evaluate Human–AI Collaboration |
| 18:30-???                   | Dinner - grill party at the conference venue  |

## Friday, June 26

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| 10:00-11:00                 | <b>Industrial Talk – Jakub Šťastný</b><br><i>(ASICentrum, Praha, Czech Rep.)</i><br>Tapeout Is Not the End: Creative Ways to Fix Silicon Surprises   |
| 11:00-11:20                 | Coffee break   |
| 11:20-11:50                 | <b>Industrial Talk – Pavel Macenauer</b><br><i>(NXP Semiconductors, Czech Rep.)</i><br>AI Inference Optimization for Resource Constrained Edge Devices   |
| 11:50-12:50                 | <b>Industrial Talk – Tomáš Dresler</b><br><i>(2N TELEKOMUNIKACE a.s., Czech Rep.)</i><br>Embedded Systems Development in Mid-Sized R&D: From Specification to Mass Production  |
| 12:50-14:20                 | Lunch + hanging posters  |
| 14:20-15:20                 | <b>Industrial Talk – Stanislav Jeřábek</b><br><i>(Tropic Square, Czech Rep.)</i><br>Coordinated Vulnerability Disclosure in Auditable Silicon: Balancing Openness and Need-to-Know, First Experience   |
| 15:20-16:20<br>(2x 30 min.) | <b>Session 3 – Neural Networks. Chair: Vít Mašek</b><br><br><i>Filip Masar, Vojtěch Mrázek, and Lukáš Sekanina</i><br><i>(Brno University of Technology, Czech Rep.)</i><br>FPGA-Based Emulation and Fault Injection for CNN Inference Accelerators: Extended Results<br><br><i>Ondřej Galeta and Lukáš Sekanina</i><br><i>(Brno University of Technology, Czech Rep.)</i><br>Genetic Programming with Transformer-Based Mutation for Approximate Circuit Design |
| 16:20-17:20                 | <b>Poster session + coffee break</b>   |
| 17:20-17:50                 | Poster session evaluation  |
| 17:50-???                   | Social event: walking tour to a local brewery (Kbely)  |

## Saturday, June 27

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| 10:00-11:00                 | <b>Keynote</b> – <i>Chandan Kumar Jha</i><br>(AGRA, University of Bremen, Germany)<br>Electronic Design Automation for Resistive RAM-Based Digital Computing-in-Memory |
| 11:00-11:20                 | Coffee break   |
| 11:20-12:50<br>(3x 30 min.) | <b>Session 4 – Arithmetic &amp; Security.</b> <i>Chair: Vojtěch Miškovský</i>  |
|                             | <i>Jiří Khun and Jan Schmidt (FIT, CTU in Prague, Czech Rep.)</i><br>Towards Interval Arithmetic in TensorFlow: A Comparison of Approaches                             |
|                             | <i>Vítěk Špelina and Jiří Buček (FIT, CTU in Prague, Czech Rep.)</i><br>Screaming Channel Evaluation on nRF52 and ESP32  |
|                             | <i>Martin Šutovský and Jiří Buček (FIT, CTU in Prague, Czech Rep.)</i><br>Exploitation of uninitialized memory to bypass KASLR   |
| 12:50-13:00                 | Closing  |
| 13:00-???                   | Lunch  |