Oleksii Shevtsov, PhD

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PROFESSIONAL SUMMARY

Passionate self-driven software engineer, problem solver, and researcher with a background in theoretical physics. More than 5 years hands-on industry experience and more than 9 years in academic research setting. Extensive track record with developing software for scientific simulations, embedded systems, web applications, and industial IoT systems. Strong analytical and communication skills, proficiency in several programming languages: Python (14 years), JavaScript/TypeScript (7 years), C++ (10 years), Rust (2 years), and Elixir (3 years). Have been involved in solving some of the most demaning problems in automotive, aviation, and green energy industries.

WORK EXPERIENCE

Senior Software Engineer   Apr. 2022 – Now
Helicon Technologies AB, Stockholm, Sweden

- Have been involved in a project with Stockholm Exergi, local energy company in the Stockholm region that produces district heating, cooling, and energy for more than 10000 consumers in the region. The role entails building and expanding the solution platform services, and involves development of cloud applications as well as software for edge gateways.

- Worked on the embedded software for the second generation of smart energy systems at Ferroamp. The system consists of inverters, solar panels, and batteries connected in the so-called DC nanogrid that allows optimal use of the grid power and substantial electricity cost reduction.

- Took part in developing a web platform for the startup called Teamkind. The platform allows client companies to engage better with their employees by means of regular surveys to make quick decisions and drive changes. Technologies used: ReactJS, Django Web Framework.

Software Application Developer (Level 4)   Oct. 2021 – Apr. 2022
Jeppesen Systems AB (A Boeing Company), Göteborg, Sweden

- Took part in the project on implementing a system for real-time tracking and adjustment of the monthly schedule for the crew members of one of the biggest cargo carriers in the world.

- Worked closely with the customer to refine, analyze, and architect technical solutions based on the business requirements.

- Worked as a team lead responsible for delivering the software module for automated calculation of adjustments to the crew member monthly pay, based on the schedule changes.

- Communicated with other teams and stakeholders to make sure that dependencies and integration points with external systems are satisfied.

Software Application Developer (Level 3)   Jan. 2020 – Oct. 2021
Jeppesen Systems AB (A Boeing Company), Göteborg, Sweden

- Played a leading role in the team of developers implementing contractual agreement rules concerning monthly payments of the crew members, based on the schedule changes which occurred during the operations.

- Got promoted to the senior developer level (level 4) based on the responsibility taken and the performace demonstrated during the coarse of the project. Have become responsible for leading the team working on the payments module.

- Won a global 3-day hackathon competition (in a team of 3) among company offices worldwide for implementing, as a proof-of-concept, a containerized version of the development environment accessible as a cloud SaaS solution. My role was to implement a web-based UI (with ReactJS framework), which used websocket connection and an HTML VNC client to create a user session and connect to the development environment in the web browser.

Embedded Software Engineer (consultant)   Aug. 2018 – Jan. 2020
Smart Eye AB, Göteborg, Sweden

- Was a part of an agile team of developers and researchers working on the software solutions for active driver assistance systems (ADAS) developed for some of the biggest car OEMs worldwide.

- Developed an algorithm for detection of a driver's eye pupil center for the case when the pupil is seen as bright (much harder than the dark pupil case). It allowed to substantially decrease the average spread and error in gaze tracking accuracy.

- Added support for megapixel cameras (as opposed to lower-resolution ones used in earlier projects) to the main library and its supporting Python tools.

- Completed a project on redesign and implementation of an interactive UI-based application using Python and its bindings with the Qt5 framework. It is used to support dynamic camera functionality in the main library, needed when the IR camera is located on the steering wheel column and can change its position.

- Made multiple contributions to the automated software testing infrastructure.

Embedded Software Engineer   Aug. 2018 – Jan. 2020
AFRY AB (previously ÅF AB), Göteborg, Sweden

- Took part in the in-house project related to virtual reality (VR) architectural visualization. Working closely with the group of graphics designers and architects, contributed to the project by programming user interaction support within a futuristic city scenery, using C# and Unity engine. The visualization was developed for Oculus Rift VR kit.

- In September 2018 started an assignment as embedded software engineer consultant at Smart Eye AB.

Postdoctoral Researcher   Oct. 2015 – Jun. 2018
Northwestern University, Evanston IL, United States

- Led 2 research projects on transport properties of electrons under the surface of superfluid ^{3}He, resulting in 2 publications in the international peer-review journals.

- Developed C++ code for parallel computations on a university computer cluster.

- Participated in two international conferences and gave two invited and one contributed talk.

- Maintained active collaboration with the group of Prof. M. Fogelström from Chalmers University.

Postdoctoral Researcher   Jan. 2013 – Oct. 2015
Chalmers Tekniska Högskola, Göteborg, Sweden

- Led a research project on superconducting devices sponsored by the Swedish Research Council. As a result, two scientific papers were published and the results presented at multiple international conferences.

- Co-supervised two PhD candidates resulting in 5 collaborative scientific publications and 4 completed projects. Both candidates successfully graduated.

- Developed a short course of lectures for PhD students and postdocs in the lab.

Doctoral Researcher   Nov. 2009 – Oct. 2012
Commissariat à l'Energie Atomique et aux Energies Alternatives (CEA), Grenoble, France

- Responsible for 3 projects on non-equilibrium transport properties of multiterminal nanodevices and graphene sponsored by the French CFR grant, under supervision of Dr. Xavier Waintal.

- Developed numerical code written in Python for parallel computations on the local computer cluster resulting in 5 scientific publications and a PhD thesis. Maintained a successful collaboration with other group members and a research group in Lyon.

EDUCATION

PhD in Nanophysics   Nov. 2009 – Nov. 2012
Université Grenoble Alpes, Grenoble France
    Thesis title: "Contribution to the theory of quantum transport: graphene-based topological insulator and finite-frequency phenomena"
    Thesis advisor: Dr. Xavier Waintal (CEA Grenoble)

Master in Theoretical Physics   Sep. 2008 – Sep. 2009
Taras Shevchenko National University of Kyiv, Kyiv Ukraine
    Summa Cum Laude. Research advisor: Dr. Yuriy Klymenko (National Academy of Sciences of Ukraine)

Bachelor in Theoretical Physics   Sep. 2004 – Sep. 2008
Taras Shevchenko National University of Kyiv, Kyiv Ukraine
    Summa Cum Laude. Research advisor: Dr. Yuriy Klymenko (National Academy of Sciences of Ukraine)

Certifications:

- Microsoft Certified: Azure Fundamentals, Microsoft, E5006C4C99FED6B6

- HashiCorp Certified: Terraform Associate (003), HashiCorp, ea53b247-b4ef-4524-8081-750dfce952e1

- AWS Certified Cloud Practitioner, AWS, 0419c810-448d-4384-8b16-e76c2fc081c9

- AWS Certified Solutions Architect - Associate, AWS, 19545194-43e8-40e3-9776-5ea02ac88771

- AWS Certified Solutions Architect - Professional, AWS, a31c83ee-e727-47f1-aef5-74395c70a0a6

E-Learning Courses:

- Designing Elixir Systems with OTP, Educative Inc., RgxzXQFRARyQL9Y26H0DYj2qQn9OT6

- Advanced CSS and SASS, Udemy, UC-0abb8933-be1a-4af6-8926-821b5ff14047

- Lean Product Management, Educative Inc., 487B21tRLDvDV2x3yfNlPK2Vj9OWcG

- Docker and Kubernetes, Udemy, UC-5e2ea26d-ad7c-4c3b-a6ac-3d9febc74b44

- SQL and PostgreSQL, Udemy, UC-47a8b993-7f00-4798-9755-43bc2cf6de62

- Accelerated Computer Science Fundamentals Specialization (3 courses), Coursera, 4YUQWFN7UYLJ

- Design Patterns in Modern C++, Udemy, UC-7Q3ALBMI

- Functional Programming using C++, Udemy, UC-80E6WWXW

- Beginning Test Driven Development in C++, Udemy, UC-C9G5N9BL

- Machine Learning, Coursera Online Platform, VZGG2D4SULCS

- The Complete JavaScript Course, Udemy, UC-4Y3XWZB2

- The Advanced Web Developer Bootcamp, Udemy, UC-5V37AUL9

- The Complete React Web Developer Course, Udemy, UC-MY5S5J1A

- Build Responsive Real World Websites with HTML5 and CSS3, Udemy, UC-PCEM4OIB

ADDITIONAL INFORMATION

- Languages: English, Swedish, French, Ukrainian, Russian
- Programming skills:
  - Python: 14 years of experience
  - C/C++: 10 years of experience
  - JavaScript/TypeScript, HTML5, CSS3: 7 years of experience
  - Elixir: 3 years of experience
  - Rust: 2 years of experience
- Software tools: Terraform, Ansible, Kubernetes, Jira, Docker, GitLab/GitHub
- Cloud platforms: AWS, Azure, Cloudflare
- Technical skills:
  - Agile software development
  - Business requirements analysis
  - Systems design and development
  - Embedded systems development
  - UI and web development
  - Object-oriented and functional programming
  - Algorithms and data structures
  - Parallel computing (MPI, OpenMP, CUDA)
  - TeX/LaTeX typesetting

HONORS AND AWARDS

- **2016** – Postdoc professional development travel award, Northwestern University (USA). Won a travel grant to give an invited talk at the International Conference on Quantum Fluids and Solids 2016 (QFS) held in Prague (Czech Republic).
- **2009** – CFR research grant, CEA Grenoble (France). As a non-EU citizen, received a research grant which covered the 3-year Ph.D. training at CEA and Université Grenoble Alpes.