

# IVAN M | SOFTWARE ENGINEER

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Accomplished Systems Engineer with over 10 years' experience in performant packet processing, NIC firmware, and network drivers within GNU/Linux environments. Proficient in C and DPDK, underpinned by a rigorous understanding of computer architecture. Proactively leveraging eBPF and Rust to solve modern challenges of network concurrency, memory safety, and observability.

Based in Yerevan, Republic of Armenia, and eligible for UK Skilled Worker visa route.

## TECHNICAL SKILLS

- C (proficient), Rust (moderate, project-level), C++ (interoperability), Python (tooling)
- DPDK, Linux kernel modules, RDMA, ROCEv2, low-latency networking, zero copy
- ARMv8 ISA fundamentals, MIPS (debugging), SR-IOV, IOMMU, cache awareness

## EXPERIENCE

- **Software Engineer** | Ark Networks, Yerevan (hybrid) | 2022 – present
  - Implemented DPDK support for high-performance features in the customer's SmartNIC, notably flow offloads for DCB/RSS and embedded switching, reducing CPU overhead.
  - Improved WQE processing in next-generation RDMA solutions by optimising the P4 pipeline, addressing various hazards as well as enforcing Verbs protocol compliance.
- **Software Engineer** | OKTET Labs, Saint Petersburg | 2015 – 2022
  - Introduced support for Rx PACKET\_MMAP mode to the packet matching component of the in-house test framework, effectively eliminating packet loss when processing large batches.
  - Co-developed driver test suite, improving corner case coverage of the DPDK Ethdev APIs.
  - Made open-source bugfix contributions, notably, XSK/DMA bugfix in the Linux kernel.

## PERSONAL PROJECTS & CONTRIBUTIONS

- TURN channel accelerator | eBPF C, Rust – <https://github.com/ivanmtech/turn-bpf>
- DNS racing tool | eBPF C, Rust – <https://github.com/ivanmtech/rust-bee-ns>

## CERTIFICATIONS

- IELTS for UKVI General Training | March 2025 | CEFR Level: C1
  - Listening: 8.5, Reading: 9.0, Writing: 7.5, Speaking: 7.0
- Embedded Systems Essentials with Arm: Getting Started
- Computer Architecture Essentials on Arm

## EDUCATION

Saint Petersburg State University | 2015 | Specialist Degree (STEM, UK's equivalent to MSc Hons)

Made contributions to some of the advanced research initiatives in the field of computer simulation. To this end, conducted data generation and simulation modelling, later switching to CUDA tooling for efficient post-processing of high-volume scientific datasets representing simulation outcomes.