

EXPERIENCE

Chief Technology Officer – Orber Technologies Inc.

Oct 2022 – Present

- Led prototyping and development of a compact “selfie drone” featuring a UWB-based tracking system
- Designed electronic schematics and multilayer PCBs.
- Participated in development of embedded firmware in C for wireless control and sensor integration.
- Designed mechanical assemblies, built prototypes, conducted testing, and performance tuning.
- Oversaw all stages of hardware development from concept to functional prototype with budget of over \$500k

Hardware Lead – Finch XR Ltd.

Sep 2015 – Oct 2022

- Designed and developed controllers for Virtual and Augmented Reality devices.
- Managed prototyping, validation, and transition to mass production for the devices with budget over \$2M.
- Selected electronic components, designed schematics and PCBs for mass production.
- Collaborated closely with firmware and mechanical engineering teams to ensure product integration.
- Tuned RF circuits and antennas, matched impedances, prepared devices for FCC and CE certification.
- 12-month assignment in China to support manufacturing setup and implement test automation equipment.

Hardware Engineer – Flipper Devices Inc.

Sep 2020 – Feb 2021

- Prototyped and validated power management subsystem, RFID antennas PCBs, measured electrical and RF parameters, tuned antennas and matched impedances, provided documentation
- Contributed to iterative hardware design improvements through rapid testing and measurement cycles.

Service Engineer – Ufanet LLC

Feb 2013 – Sep 2015

- Repaired and maintained telecommunication hardware and UPS systems, improving system reliability.
- Developed remote monitoring system for local infrastructure and custom “smart home” solutions.

PROJECTS

- **6DoF AR Ring controller** – Led development from concept to PVT stage through five hardware iterations; prototypes showcased at **CES 2020**.
- **6DoF VR Controller** – From concept to mass production in four hardware iterations; over **5,000 units** produced.
- **3DoF VR Controller** – Delivered the 4th generation bundled with the **Vive Focus headset (2018)**, with **10,000+ units** manufactured; collaborated with **Apple** and **Logitech** engineers in Taiwan on the 5th generation.
- **Full Hand MoCap Controller** – Designed multi-IMU “glove” controller for immersive VR interactions.
- **Follow-Me Selfie Drone** – Led end-to-end development from initial concept to a fully functional demo prototype
- **Project examples:** <https://rtphex.com/projects>

SKILLS

Software Tools: Altium Designer, Autodesk Fusion, Proteus Design Suite, Arduino, Segger Embedded Studio, STM32CubeMX, Microsoft Visual Studio, Si9000e, HFSS, DipTrace, EAGLE

Hardware Tools: FDM/DLP Printers, 3-axis CNCs, VNAs, Spectrum Analyzers, Oscilloscopes, Logic Analyzers, SWD/ISP Programmers, Multimeters, power measurement tools.

Programming: Hands on Embedded C, C++, Linux

Other: PCB stack-up, proper ground plane designs, high-speed interfaces, signal integrity, ripple voltage prevention, energy efficient (sub μ A) designs, ESD protection, RF circuits design, impedance matching, DFM, DFT, FCC/CE compliance

EDUCATION

Ufa University of Science and Technology, Russia (<https://study.uust.ru/>) 2007-2012

Wireless Communication and Broadcasting Technologies

OTHER

Co-inventor on 28 U.S. patents: justia.com/search?q=iakov+sergeev

U.S. Permanent Resident (DV1 Visa) – Eligible to work in the United States without sponsorship.