Andrew Makarevich

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Education

University of Maryland, College Park — College Park, MD
BS. Computer Engineering ***(GPA: 3.75/4.00)*** — *Jan. 2025 – Dec. 2028*

Experience

Avionics Engineer — Jan. 2025 – Present
UMD Satellite Development Program — *College Park, MD*

- Designed and tested components of the communications subsystem for a 6U CubeSat.
- Developed system-level documentation, including a link budget and assembly, integration & test (AI&T) procedures.
- Presented on communications subsystem procedures, modulation/FEC trade studies, and link budget revisions at team design reviews.

Visiting High School Researcher, Data Annotator — Jun. 2023 – Aug. 2023
Johns Hopkins University — *Baltimore, MD*

- Segmented cranial surgery video datasets to train deep learning models for medical AR research.
- Integrated annotated data and 3D models into the lab's research platform, supporting augmented reality visualization.

Engineering Intern — Apr. 2024 – Jun. 2024
Harbor Designs and Manufacturing LLC — *Baltimore, MD*

- Designed wireframes and early-stage app prototypes using Adobe XD to support client product development.
- Collaborated with cross-functional engineers on hardware-software integration for emerging products.

Computer Programmer & CAD Lead — Jan. 2023 – Jun. 2024
FRC Team 1719 Robotics — *Baltimore, MD*

- Programmed robot positioning and control systems in Java, improving competition performance.
- Designed and optimized 3D mechanical models in Onshape; validated functionality with the robotics team.
- Led multi-disciplinary design reviews to ensure integration between software and mechanical systems.

Projects

Clap-Activated LED Strip Controller | *STM32, Embedded C, Real-Time Signal Processing* — Sep. 2025 – Present

- Developing firmware on an STM32 microcontroller to toggle an addressable LED strip in real time using clap-based audio input.
- Implementing microphone input acquisition and digital filtering to reliably distinguish clap events from background noise.
- Exploring extensions such as brightness modulation and multi-clap pattern recognition as future features.

Technical Skills

Languages (Human): English (Native), Russian (Native), Spanish (Professional Fluency), French (Professional Fluency), Mandarin (HSK 2)

Programming: Python, C/C++, Java, JavaScript, Embedded Systems

Hardware & Electronics: PCB Design, Circuit Prototyping, Arduino/ESP32, Robotics Systems

Developer Tools: Git, VS Code, Visual Studio, Eclipse

Libraries: Pandas, NumPy, Matplotlib

CAD & Modeling: Onshape, SolidWorks, Fusion 360, Luma3D

UI/UX & Creative Tools: Adobe XD, Unreal Engine (XR/3D Environments)