Behruz Erkinov

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EDUCATION

New York University Abu Dhabi — **Abu Dhabi, United Arab Emirates**
Bachelor of Science in Electrical Engineering — *September 2023 - May 2027*

Presidential School in Tashkent — **Tashkent, Uzbekistan**
High School Diploma — *September 2019 - June 2023*

TECHNICAL SKILLS

Programming Languages: C, C++, C#, Python
Tools and Frameworks: ESP-IDF, ROS 2, Unity, Git
ECAD: Cadence Virtuoso, KiCAD, EasyEDA, Autodesk EAGLE
HDL: VHDL, Verilog
CAD: Autodesk Fusion 360, Onshape

EXPERIENCE

Undergraduate Research Assistant — **Abu Dhabi, United Arab Emirates**
Center for AI and Robotics, New York University Abu Dhabi — *October 2024 - Present*

- Designed and fabricated mechanical mounting and signal interfaces to integrate Inspire-Robots Dexterous Hands with the KUKA LBR iiwa 14 robotic arm for dexterous manipulation research.
- Built a single- and dual-camera vision-based human pose tracking pipeline using Google MediaPipe to enable real-time whole-body imitation learning for a humanoid robot.

Embedded Systems Engineer Intern — **Tashkent, Uzbekistan**
OYGUL — *June 2024 - August 2024*

- Developed a Clustered SMS Gateway Server for 2FA client authorization.
- Developed a Clustered Multi-Party Call Server to enhance client privacy by utilizing multi-party calls, ensuring that the client's real phone number is never disclosed to third parties.

Undergraduate Research Assistant — **Abu Dhabi, United Arab Emirates**
Applied Interactive Media Lab, New York University Abu Dhabi — *October 2023 - May 2024*

- Designed and 3D printed hardware for Haptic-based Dental Local Anesthesia Simulation.
- Developed the simulation used in VR motion sickness research.

PROJECTS (MOST RECENT)

- **Triton**: **Awarded Second Place in Mubadala's Higher Education Student Competition.** Collaborated with a team of university students to develop an autonomous boat that removes floating trash from water surfaces. Designed and implemented the thruster control and peripherals communication algorithms as part of the Electrical Engineering team. GitHub
- **CharlieDeck32**: A minimalist handheld console built around an STM32 microcontroller and a Charlieplexed LED matrix for efficient GPIO usage. Runs retro-style games like Flappy Bird and Snake using custom low-level graphics routines. The reverse silkscreen features personal contact information, allowing the device to function as a hardware business card. GitHub
- **StaticString**: A lightweight, fixed-capacity, stack-allocated string type for C/C++. Designed for memory-constrained environments where dynamic memory allocation is undesirable. Offers bounds-safe string manipulation, compile-time initialization, and zero heap usage. Ideal for embedded firmware and bare-metal applications. GitHub
- **ValenTtiny**: Designed and developed a heart-shaped development board featuring the ATtiny85 microcontroller. The board leverages V-USB to implement bit-banged USB functionality, enabling users to program it directly via USB and emulate HID devices without additional hardware. This development board doubles as a unique and customizable Valentine's gift. GitHub
- **PixieClock**: Designed and built an open-source smart clock using ESP32-S3 that displays real-time clock data along with indoor and outdoor temperatures based on the user's location. Features include NTP time synchronization, IP-based geolocation, weather API integration, and LED segment display. Ideal for personal use or as a customizable gift. GitHub

AWARDS

- Mubadala's Higher Education Student Competition 2025 - 2nd place
- Astana International STEM Olympiad 2022 - 1st place, Central Asia Robotics Champion
- Uzbekistan Computer Science Olympiad 2021, 2022 - 1st place, National Champion

LANGUAGES

- English - Advanced
- Uzbek - Native
- Russian - Native