Jurabek Murodov

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EDUCATION

Stony Brook University   Expected Graduation May 2027
Bachelor of Engineering, Computer Engineering   GPA: 3.82
Relevant Coursework: Data structures, Digital Logic Design, Programming in C, Discrete Mathematics, Embedded Microcontroller Systems Design I, Deterministic Signals and Systems, Electrical Circuit Analysis

SKILLS

Programming: Java, C, C++, C#, HTML, CSS, JavaScript, Python, and Arduino
Software: Visual Studio, NetBeans, Microsoft Excel, OrCad, Fusion 360, OnShape, and LTspice
Languages: English, Tajik, Russian

PROJECTS

Intelligent Pathfinding and Memory Simulation in C
- Developed a C program for a virtual agent navigating a maze using a stack-based memory system for movement and decision-making.
- Implemented an Abstract Data Type (ADT) for the agent's actions, enabling autonomous navigation with strategies like backtracking and jumps.

Omni-Directional Car
- Developed a 3-wheel omni-directional vehicle powered by an ESP32 microcontroller, achieving advanced maneuverability and control through Bluetooth connectivity via the Dabble app.

Arduino-based Car
- Constructed a 2-wheeled autonomous vehicle with light-detection capabilities, leveraging OnShape for structural design and 3D printing technology for chassis fabrication.
- Developed adaptive navigation algorithms for autonomous path adjustment, showcasing advanced sensor use.

Marble Sorting System
- Engineered a precision sorting device with an Arduino microcontroller, incorporating two micro servos and an infrared sensor for the segregation of colored from clear marbles.
- Implemented control logic for instant sorting, showcasing advanced programming and sensor integration.

Smart USB Charger
- Designed and implemented a smart USB charger with integrated digital clock which uses a four digit seven segment display to accurately present time.
- Soldered a user-friendly interface including six LEDs that show the seconds in binary units.

EXPERIENCE

Stony Brook University Campus Residencies   August 2024 – Present
Resident Assistant (RA)   Stony Brook, NY
- Oversee college residence hall floor of diverse undergraduate students ranging from international to transfer students, by developing a community and ensuring each individual is comfortable in their living environment
- Plan and implement programs for residents and maintain all bulletin boards and fliers with accurate, up to date, and useful information
- Mediate roommate and suitemate conflict with the use of problem-solving and communication skills.
- Coordinate 16 weeks of duty coverage for 11 RAs by reviewing and managing differing schedules

Commonpoint Queens   July 2022 – August 2024
Counselor   Fresh Meadows, NY
- Organized diverse recreational and academic activities for students in grades K-5, fostering a positive and inclusive school experience.
- Provided valuable academic support, resulting in improved student performance and confidence.

FTC Robotics Team   September 2022 – June 2023
Programmer   Forest Hills, NY
- Led programming efforts for the 2022-2023 FIRST Tech Challenge, developing both teleoperated and autonomous modes in Java, enhancing robot functionality and competition performance.
- Mastered and implemented advanced robotics technologies including servo motors, viper slides, DC motors, and the mechanics of mecanum wheels for strategic maneuverability.
- Collaborated closely with engineering team members, contributing to design brainstorming, construction, and providing critical feedback to optimize robot design and capabilities.