

# Patrick Hourican

Systems Engineer | Active DoD Secret Clearance  
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## EDUCATION

University of Virginia | School of Engineering and Applied Science

May '23

B.S. in Computer Engineering

- **Relevant Coursework:** Operating Systems, Computer Architecture, Embedded Computing & Robotics, Advanced Software Development, Program and Data Representation/Data Structures and Algorithms, Electrical Engineering, Applied Probability, Data Science with R, Artificial Intelligence Principles, Computer Networks, Cybersecurity

## PROJECTS

**Autonomous Obstacle Avoidance for Semi-Autonomous Drones:** Utilized Python libraries in Robot Operating System (ROS) to develop autonomous obstacle avoidance capabilities for semi-autonomous drones

**Walmart Sales Analysis:** Analyzed a Walmart sales dataset utilizing Python for data cleaning and writing SQL queries to provide critical business insights and trends in sales, profitability, and customer behavior

**ECG PCB Design:** Utilized Multisim and Ultiboard to design and create a functioning Electrocardiogram on a Printed Circuit Board

**Basic RISC-V CPU:** Designed and programmed an information processing system in VHDL, tested functionality using python scripts and x86 assembly language

**TI-RSLK MSP342 Robot:** Programmed an MSP432 microcontroller in C to control a robot's sensors and motors to navigate through a maze

**Data Structures:** Worked on several projects implementing data structures and algorithms using C++ and x86 assembly language

## UNIVERSITY AWARDS

IEEE Systems and Information Engineering Design Symposium (SIEDS)

- Earned Best Paper Award in Systems Design category for project titled "A General Framework for Human-Drone Interaction under Limited Onboard Sensing"

## WORK EXPERIENCE

Systems Planning and Analysis, Inc. | Washington, D.C.

Test & Evaluation Engineer - Execution Lead for Shipboard Panoramic Electro-Optic/Infrared Program (SPEIR)

May '24 - Present

- Travel to government and commercial stakeholder test sites to organize and facilitate data collections and test events
- Develop and present technical briefs to high ranking US Navy officer personnel
- Deliver technical products highlighting design flaws and improving program efficiency
- Track and document tasking, schedule changes, and product deliveries across multiple working groups
- Mentor junior engineers in technical responsibilities and building customer rapport
- Lead several working groups and organize workshops for test event planning, modeling and simulation analysis, software and cybersecurity test plan reviews, requirements analysis, data collection, and DDG combat system integration

Systems Engineer - Overarching Electronic Warfare Support

July '23 - May '24

- Provided technical and program management support to several US Navy Electronic Warfare programs
- Conducted reviews of technical data packages, analyzed requirements and schematic diagrams to highlight inconsistencies and provided customer with correct path forward

Bezzo Robotics Lab | Charlottesville, VA

August '22 - May '23

Research Assistant

- Collaborated with a multidisciplinary team to enhance drone navigation systems for distinguished industry client
- Assisted in the research and development of semi-autonomous drones, focusing on obstacle avoidance capabilities
- Conducted extensive testing and analysis to validate drone performance

## CLUBS & ORGANIZATIONS

Sigma Chi Fraternity

Consul (President)

January '22 - January '23

- Led chapter of 57 members and develop goals to enhance involvement and leadership in the local community
- Represented organization on campus and internationally
- Organized philanthropy events to raise money for the UVA Children's Miracle Network

Computer and Network Security Club

August '20 - May '23

Club Member

- Discussed various topics related to cybersecurity and cyber defense

## VOLUNTEER EXPERIENCE

Volunteer Income Tax Preparer

August '20 - May '21

Madison House Student Volunteering | Charlottesville, VA

- Filed IRS-1040 tax forms for low-income individuals and families in the Charlottesville community

## SKILLS

**Programming Languages:** C++, Python, SQL, Java, JavaScript, C, R, HTML, CSS, VHDL, Verilog, x86 Assembly

**Software Tool Experience:** Next.js, React, Excel, MATLAB, LabView, Linux Ubuntu, Multisim, Ultiboard, Tableau, Jira, Git, RStudio, Cameo Systems Modeler, Jira, Confluence