Soham Gandhi

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EDUCATION

B.S. in Computer Engineering & B.S. in Electrical Engineering — **Blacksburg, VA**
Major in Machine Learning and Controls, Robotics, & Autonomy at Virginia Tech — Expected May 2024
Honors Collaborative Discovery Diploma (anticipated) — Junior Honors
Minor in Computer Science (anticipated) — GPA: 4.0

Calhoun Honors Discovery Program — **Blacksburg, VA**
Transdisciplinary program in collaboration with major corporations — August 2021 – Present
Integrates different areas of study to solve sociotechnical problems with industry partners

SKILLS

Programming: Python, Java, C++, C#, Bash, CSS, HTML, LATEX, MATLAB, Verilog,
Platforms: Unity, XR, LTSpice, Git, Fusion 360, AutoCAD, SolidWorks, OpenCV, TensorFlow, ROS
Hardware & Interfaces: Raspberry Pi, Arduino, Teensy, i2c, SPI, RS232, UART

EXPERIENCE

General Dynamics Mission Systems | *Maritime Software Engineering Intern* | Fair Lakes, VA — May 2022 – July 2022
- PXE booted Centos 8 Stream using DHCP, TFTP, and NFS
- Worked with file systems like initramfs, squashfs, and tmpfs to PXE boot the operating system to ram
- Hardened kickstarts to make them STIG compliant and meet DOD requirements
- Created bash and python scripts to automate tasks to simplify the install process

DREAMs Lab | *Research Assistant* | Blacksburg, VA — September 2021 – May 2022
- Coded in python to increase capabilities of a legacy inkjet & FDM printer (Rize One)
- Worked on integrating inkjet polymers with FDM materials to increase material properties
- Designed custom parts in SolidWorks to increase compatibility with 3rd party materials

InSignEx | *Intern* | Gujarat, India (Virtual) — May 2020 - June 2021
- Developed an automated irrigation system for banana farmers to collect and evaluate data using python, flask, and MYSQL
- Prototyped designs and measured power draw of circuitry using shunt resistors and a NodeMCU
- Formed a proof of concept for the user interface utilizing Adobe XD

PROJECTS

Haptic Tactics | Boeing | *Co-founder & CTO* — January 2022 - Present
- Developed a hand-held proxy to house electrical components using SolidWorks to simulate drilling using virtual reality
- Integrated hand-held proxy with Unity to provide an immersive environment using the HTC Vive Pro
- Collaborated with employees at Boeing to receive feedback and make improvements to system

Food Science NLP | *Co-developer* — September 2021 - Present
- Analyzed data from 40,000+ abstracts and created automated scripts to clean, sort, and filter data
- Used Gensim to create word2vec models to understand the correlation what food science know about flavors
- Visualized models using Orange and Gephi to understand relations created by the word2vec model

Computer Vision Launcher | *Co-developer* — August 2020 - July 2021
- Built a launching mechanism to locate an object and launch a projectile based the forces acting on projectile
- Designed prototype using CAD software and built using 3D printing and laser cutting
- Developed software using a dual camera system to triangulate objects in 3D space

PUBLICATIONS

Gandhi, S., & Shah, A. (2022). Continuous Monitoring of Banana Plantations. In F. Thakkar, G. Saha, C. Shahnaz, & Y.-C. Hu, Proceedings of the International e-Conference on Intelligent Systems and Signal Processing Singapore. https://doi.org/10.1007/978-981-16-2123-9_31

AWARDS

Honors College Norrine Bailey Spencer Strong Start Honoree — 2022
HackDuke: 1st Place in Education Track & Best Financial Hack by Capital One — 2021