

Soham Gandhi

Ashburn, VA | 973-216-6660 | sohamgandhi@live.com | in/soham-gandhi/ | sgandhi10.github.io | **Secret Clearance**

EDUCATION

Virginia Tech

B.S. in Computer Engineering & B.S. in Electrical Engineering

Majors in Machine Learning and Controls, Robotics, & Autonomy, Minor in Computer Science

Activities: Calhoun Honors Discovery Program, Apex Center for Entrepreneurs, Collaborative Robotics Lab, IEEE

Relevant Coursework: Computer Systems, Discrete, Signals and Systems, Circuits and Devices, Digital Systems

Awards: Calhoun Honors Discovery Program Scholar, VT Dean's List (Fall 2021 – Present), Hack Duke 2021 (Best Financial Hack, 1st Place Education Track), Hack Violet 2022 (Ut Prosim Award), VT CHCI Student Symposium 2022 (3rd Place)

Expected May 2025

Junior Honors

GPA: 4.0 / 4.0

Thomas Jefferson High School for Science and Technology

Advanced Studies Diploma, Governor's Seal

Activities: Congressional Debate Team (Director of Technology), Space Program (APRS Lead), Mock Trial (Co-President)

Relevant Coursework: Multivariable Calculus, Artificial Intelligence, Computer Vision, Research Statistics

Graduated June 2021

GPA: 4.25W

SKILLS

Programming: Python, Java, C, C++, C#, Linux Bash, LATEX, MATLAB, Verilog, OpenCV, TensorFlow, Firebase, ROS

Platforms: Unity, LTSpice, Git, Fusion 360, AutoCAD, SolidWorks

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

- Installed and configured Centos over NFS mount using DHCP and TFTP to automate kiosk deployment on secure network
- Experience with file systems, including PXE booting and implementing security measures to clean classified information
- Enhanced system security by hardening kickstarts to meet DoD STIG requirements and mitigate potential intruder attacks
- Developed Bash and Python scripts to automate input device setup, user permissions, and user environment layouts.

InSignEx | *Research Intern* | Gujarat, India (Virtual)

May 2020 - June 2021

- Developed an automated agricultural irrigation system using Python, Flask, and MySQL, for data collection and evaluation
- Prototyped designs and measured power draw of NodeMCU with a shunt resistor, reducing power consumption to 30mA
- Created a proof-of-concept for the user interface using Adobe XD, and presented findings in a conference paper

RESEARCH PROJECTS

Haptic Tactics | *Co-Researcher* | Blacksburg, VA

January 2022 - Present

- Developed a patent-pending hand-held proxy for simulating drilling using virtual reality and Solidworks
- Implemented a closed-loop impedance control system with variable forces using a BLDC motor, encoder, and Teensy
- Integrated the hand-held proxy with Unity VR and HTC Vive Pro for high-fidelity visual and auditory feedback
- Presented the proxy system to the CSO of Boeing and CTO of Caterpillar

Collaborative Robotics Lab | *Research Assistant* | Blacksburg, VA

August 2022 – Present

- Collaborating with a Ph.D. student exploring the potential benefits of deception in achieving higher long-term rewards
- Using game theory concepts such as Bayesian games and Nash equilibrium to develop and test algorithms using Python
- Validating findings through user studies and sharing them through publication in a relevant journal

DREAMs Lab | *Research Assistant* | Blacksburg, VA

September 2021 – May 2022

- Enhanced the capabilities of a legacy inkjet & FDM 3D printer and improved material properties by ink jetting polymers
- Wrote custom scripts in Python to control actuators and printheads through manipulation of G-code for the 3D printer
- Designed custom parts in SolidWorks to increase compatibility with 3rd party polymers and inks

Food Science NLP | *Co-Developer* | Blacksburg, VA

September 2021 – Present

- Fetched and analyzed over 60,000 abstracts in the field of food science and food chemistry using the Elsevier API
- Evaluated the current state of knowledge in the domain of food science with regard to food chemistry, focusing on the correlation between odorants and odors
- Utilized Gensim, Orange, Tableau, and Gephi to create word2vec models and build informative visualizations

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