MIHIR SAVADI

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EDUCATION

VIRGINIA TECH | **Bachelors of Science in Computer Engineering** ***Aug 2018 – May 2022***

Blacksburg, Virginia, USA | GPA: 3.4 | Senior (4th Year)

- Concentrations in Machine Learning, Chip-Scale Integration, and Digital Design. *Coursework list on next page*.

SJI INTERNATIONAL | **International Baccalaureate (IB)** ***Jan 2014 – Dec 2015***

Singapore

- Higher Level Mathematics, Physics, and Economics.

WORK EXPERIENCE

QUALCOMM | **Incoming Global System on Chip Intern** ***May 2021 – August 2021***

San Diego, California, USA

- Global System on Chip, CPU team. Worked on front-end design and optimization of a vector processing unit within the CPU subsystem of a future premium tier system-on-chip (SoC) product.
- Conducted synthesis report analytics for flow PPA (power, performance, area) and runtime optimization. Built custom data analytics and report-generating scripts in python that were integrated into the team's overall synthesis flow.

VT MICS | **Neuromorphic Computing Undergraduate Researcher** ***Aug 2020 – Present***

Blacksburg, Virginia, USA

- VT MICS (Multifunctional Integrated Circuits and Systems Group). Project: Spiking Neural Network (SNN) SoC development.
- Focusing on scale-able and digitally efficient FPGA implementations for Spiking Neural Primitives, STDP (Spike Time Dependent Plasticity), parallelized hardware-pipelining, and overall network architecture.

CREE WOLFSPEED | **Power Electronics Systems Intern** ***May 2020 – August 2020***

Research Triangle Park, North Carolina, USA

- Worked in a multidisciplinary team, developing a widely applicable test platform to generate long term value for a pioneering Silicon Carbide company.
- Designed the underlying interfacing, controls and signal processing architecture for an early revision novel traction inverter reliability test bed for highly power-dense Silicon Carbide MOSFETs. Designed a 3 phase Direct Digital PWM Synthesis Engine ASIC.
- Delivered a complete Rev1 system: Programmed FPGA & Microcontroller Hardware, EMI Protection, Signal Conditioning Circuitry, Printed Circuit Board, Wire Harness, Enclosure.

GLIDIO | **Founder** ***March 2019 – July 2021***

Singapore & Blacksburg, Virginia, USA

- Leveraging latest advances in affordable consumer integrated circuit technology, additive manufacturing, printed circuit board fabrication, and 18650 lithium-ion cell availability to bring simple, reliable, and affordable Variometers to the Hang-gliding/Paragliding market.

VIRGINIA TECH FORMULA SAE | **Embedded Systems Engineer** ***September 2018 - Present***

Blacksburg, Virginia, USA

- Electrical Team Lead for 2020 Season: Overlooked all computational, electronic, and electrical development of the competition vehicle.
- Developed highly integrated and power dense embedded systems including Data Acquisition, Dynamic Power Distribution, Electronic Throttle Plausibility and Safety, Drag Reduction, and Autoshifting systems.

FLOATILITY | **Research and Development Engineer** ***February 2018 – July 2018***

Singapore **letter of recommendation available on request*

- Developed electro-mechanical and controls systems to enable independent self-actuability for varying degrees of autonomy in shared-mobility scooters. Designed an electromagnetically actuated quick locking module for fleet adoption in riskier deployment areas.
- Custom built travel friendly lithium-ion battery packs for the Marketing Team for overseas conferences and other events.
- Established a supply-chain collaboration with local electric skateboard manufacturing firm for advanced BLDC motor controllers.
- Point of contact in a maker-space partnership with software multinational – Autodesk.

SINGAPORE ARMED FORCES | **Corporal, Multi Vocationalist** ***March 2016 – February 2018***

Singapore **letter of recommendation available on request*

- Sector Response Force, 8th Battalion Singapore Infantry Regiment, DIV 2PDF. Multi-role unconventional infantry trooper in a small quick response force unit, responsible for homeland security purposes.
- Held the appointments of Section In-Charge, as well as company Armored Personnel Carrier Asset In-Charge.
- Trained and Experienced in active High-Risk Management, Communication, and Leadership. Trained to operate in a multitude of tactical roles within small, adaptive, and objective-focused teams, working in fast paced and high-pressure environments.
- Heavily involved in public (as well as internal) relations and education projects.

CUSTOM 3D PRINTS | **Founder** ***March 2017 – January 2018***

Singapore

- Founded and ran a small independent yet profitable custom CAD and 3D printing/fabrication operation using self-invested additive manufacturing capital, providing full-turnkey solutions: design consultation, early prototyping, small production runs.

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BOMBARDIER AEROSPACE | **Sales Intern** ***March 2013***
Singapore

- Assisted a Q400 aircraft deal with Garuda Airlines. Researched airport pricing data for an internal project database, leveraged information to pose the best combination of aircraft configurations for cost-effectiveness with regard to client's proposals.

SKILLS

- Proficient in C, C++, Verilog HDL, Python.
- Experienced with LTSpice, PLECs, MATLAB, Altium, Diptrace, Solidworks, Fusion360, and Altera FPGA development.
- Experienced in Embedded Systems Design & PCB design and assembly.
- Experienced and Proficient in systems level approaches to project management and design.
- Possess strong analytical, mathematical skills.
- Extensive experience in practical Leadership and Communication.

ELECTRICAL & COMPUTER ENGINEERING UNDERGRADUATE COURSEWORK

- Relevant Courses already taken – Freshman (1st), Sophomore (2nd), and Junior (3rd) Years: *(2018 to 2021)*
  - Circuits and Devices (ECE 2024)
  - Computational Engineering (ECE2514)
  - Fundamentals of Digital Systems (ECE2544)
  - Physical Electronics (ECE 2214)
  - Embedded Systems (ECE 2564)
  - Signals and Systems (ECE 2714)
  - Integrated Design Project (ECE2804) – Beam Forming Direction Finding Project
  - Computer Organization and Architecture (ECE 2500)
  - Data Structures and Algorithms (ECE 2574)
  - Digital Design 1 (ECE 3544)
  - Applied Software Design (ECE 3574)
  - Digital Design 2 (ECE4514)
  - Computer Organization (ECE 4504)
- Relevant Courses currently taking this Senior Year (4th) Year: *(2021 to 2022)*
  - Machine Learning (ECE 4424)
  - Introduction to Computer Vision (ECE 4554)
  - Linux Kernel Programming (ECE 4414)
  - Real-Time Systems (ECE 4550)
  - VLSI Circuit Design (ECE 4540)
  - Artificial Intelligence and Engineering Applications (ECE 4524)
  - Hardware Software Codesign (ECE 4530)
  - Digital Image Processing (ECE 4580)
  - Senior Design Project (ECE4805)
  - Introduction to Number Theory (MATH 4134)
  - Cryptography 1 (MATH 4175)
- Keen on pursuing Graduate and Post Graduate studies in the future.

ACCOMPLISHMENTS, & ACTIVITIES

- Hang-Gliding enthusiast, working up the USHPA (United States Hang Gliding and Paragliding Association) ratings.
- Certified Nitrox, Rescue, and Advanced Open Water Scuba Diver and license holder. Logged approximately over 70 dives in South East Asian waters.
- Avid Trekker. Summited Mount Kilimanjaro in 2016 and Mount Rinjani in 2014. Reached the Goecha-La pass and Mount Kanchenjunga base camp in the Eastern Himalayas in 2013. Plans for Mount Everest Base Camp, and other treks are in development.
- Designed, built, and flew several FPV racing drones, long-range drones, and fixed wing UAV's, as well as accompanying Ground Station equipment, as a hobby over the last 8 years.
- Presented the Gold National Youth Achievement Award 2015, by the (at the time) President of Singapore – Dr.Tony Tan.
- Avid guitar player.
- Please see github.com/mihirsavadi for all my recent project repositories, and msav.blog for my other uploaded content.