Siddarth Prabhakaran

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EDUCATION

8/19 – 12/23 **Texas A&M University, College of Engineering**
College Station, TX *B.S. Computer Engineering, Minor in Mathematics*

SKILLS

C++, C, Python, Java, Git, FreeRTOS, Verilog, ARMv8, CAD, CAN bus, SPI, UART, CUDA, PyTorch, OpenCV, YOLO

LANGUAGES

English (Native), Tamil (Full Professional), Spanish (Limited)

HONORS & AWARDS

- Solidigm Client Storage Group – Op-x Recognition Award (2022)
- Houston Mayhem 2021 – **3rd** Place in 3lb division (2021)
- VEX Robotics World Technology Division Semifinalist (2019)
- Boy Scouts of America – **Life Scout**

EXPERIENCE

6/22 – 12-22 **Solidigm Technology**
Folsom, CA *Client Storage Architecture Team – Product Development Intern*
- Received **Op-x Recognition Award** for outstanding execution in developing a tool used to study SSD access patterns.
- Designed proof-of-concepts and firmware policies for next-gen solid-state storage drives.
- Created Python scripts used to determine data-driven power and performance targets for future drives.
- Developed internal tool to simulate power consumption of storage drives under various workloads.
- Collected performance data to validate marketing material for the Solidigm P41 Plus SSD.

6/21 – Pres. **BattleBots – Team Riptide**
College Station, TX *Electronics/Embedded Systems Lead*
- Drafted electrical diagrams, designed custom sensor PCBs using Altium, and developed brushless motor control software (C++) under the open-source VESC project.
- Lead Team Riptide as the chief of electronics and embedded systems during the 2021 and 2022 seasons of Discovery Channel's TV Show Battlebots.
- Placed within the **Top 8 of all heavyweight combat robots** worldwide, awarded **"Rookie of the Year"** for unprecedented success in first ever competitive season.

9/19 – Pres. **Texas A&M Robomaster Robotics Team**
College Station, TX *Embedded/Control Systems Lead*
- Led development of FreeRTOS implementation and control systems on STM32 platform across 10 of Texas A&M's robots at the DJI Robomaster World Championships.
- Implemented custom UART communication protocol between NVIDIA Jetson and STM32-based microcontroller.
- Designed patrol, target selection, and combat algorithms for fully-autonomous Sentry robot.
- Managed team's finances, recruiting, and task delegation.

4/15 – 4/19 **DVHS Robotics**
San Ramon, CA *Team 5776A – Lead Programmer & Design Team (2017 – 2019)*
- Implemented control algorithms including the Adaptive Pure Pursuit Controller, PID controllers, and odometry to allow for more efficient autonomous routes during match play.
- Led team in creating autonomous control software for 5776A's robots throughout competitive season.
  - World Championship Technology Division Semifinalist (2019) & Google Event Skills Finalist (2019)

PROJECTS

DIY Electric Skateboard – *Built a fully custom, low profile electric longboard for everyday use*
- Travels at 22MPH with 30 miles of range

SERVICE

9/15 – 4/19 **DVHS Science Alliance**
San Ramon, CA *Student Mentor*
- Coached multiple 5th grade students through the process of developing and experimenting their own research question.
- Students received numerous awards for their work, including two 3rd place awards, a 2nd place award, and the District Award for Environmental Science.

8/15 – 9/18 **California Tamil Academy**
San Ramon, CA *Teaching Assistant*
- Volunteered 2-3 hours every weekend teaching foreign language (Tamil) to elementary and middle school students.

RESEARCH

Evaluating the viability of Adaptive Pure Pursuit Control in low resource skid-steer drive mobile robot