

# SAHAS CHITLANGE

chitlangesahas@gmail.com | GitHub: ChitlangeSahas | [linkedin.com/in/chitlangesahas/](https://www.linkedin.com/in/chitlangesahas/) | [chitlangesahas.me](http://chitlangesahas.me)

## SUMMARY

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Software & Hardware Engineer fascinated by the intersections of technology and design for experience. 4.5+ years of experience building professional industry software like Energy Vault's VaultOS energy and asset management system.

Creator of widely known Open Source Pet Tracker called FindMyCat which was featured in numerous global technology publications. Distinguished technology author at Autodesk's Instructables with 1.3 million project views, 12+ featured publications and more than 10 international contest awards.

Awarded the "Extraordinary Ability" visa by the Government of United States in recognition for my work in the field.

## EXPERIENCE

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### Senior Software and Hardware Engineer, Energy Vault

*Dec 2022 - Present*

- Focused on developing company's flagship Energy and Asset Management System software called VaultOS.
- Created controls software which orchestrates power plant assets with a near real-time latency and millisecond level data resolution. Work includes MODBUS, CAN, SNMP among other comm protocols, controls software written in Java.
- Implemented the "Digital Twin" software architecture which creates the power plant design simulated in software with details extending down to the battery cell level, significantly de-risking project execution.
- Architected the Asset Management software which analyzes data from the batteries & other assets to provide insights on asset performance. Contributions include creating data engineering solutions unique to energy storage.
- Contributed to the User Interface (UI) for VaultOS which includes building complex Data analysis tools and Asset Control tools using React framework in Typescript and Redux for state management.

### Software Engineer, InfluxData

*Jul 2021 - Dec 2022*

- Led engineering effort to implement InfluxData's UI component library. Worked closely with multiple designers to provide design and engineering input on two major releases.
- Devised a solution for a highly-requested feature that ensured visualizations had persistent colors per unique time series.
- Helped design, implement and ship seamless and compelling onboarding wizards that drastically simplified the process of writing data into InfluxDB, which caused a direct increase in InfluxDB Cloud signups by over 13%.

### Software Engineer Intern, InfluxData

*Jan 2021 - May 2021*

- Utilized React, Redux, and TypeScript to design, develop, and deliver UI components. Was offered a full-time position after internship concluded based on performance, in a time where extra head-count was becoming scarce.

### Software Engineering Intern, InfluxData

*Jun 2020 - Aug 2020*

- Implemented a full recursive parser in Rust & GoLang and lowered the total development time for end-users by about 40% by redesigning the query language syntax into a more user-friendly one.

### Instructor, Makerspace

*Apr 2018 - May 2020*

- Taught one on one programming classes in C++ and Python to over 50 students, 1.5 - 2-hour session every 2 weeks.

### Author, Autodesk Instructables ([bit.ly/sahas-instructables](https://bit.ly/sahas-instructables))

*Aug 2017 - Oct 2019*

- Developed projects that were collectively viewed over 1.3 Million times, and featured on the Instructables homepage.
- Won 10+ awards for my projects in multiple contests, including two Grand Prizes and four First Prizes.

## PROJECTS

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### FindMyCat - Open Source Pet Tracker [Embedded Engineering] ([www.findmycat.io](http://www.findmycat.io))

- Architected the hardware, embedded software, iOS application and published the research behind the Open Source Pet Tracker, for wider public benefit.
- Featured in 9+ international technology media outlets. Product Hunt top 10 of the day. Hackaday Prize 2023 Finalist.
- Technology stack: NRF9160, NRF7002, DWM3001C (UWB/BLE) and PCB design which includes Radio (RF) design. Firmware written in Zephyr based nRF Connect SDK & west.

### Vibe - The Self Balancing Bike [Robotics] ([www.ridethevibe.io](http://www.ridethevibe.io))

- Built a Self Balancing E-Bike called Vibe, a sequel to the Uniwheel I built in college (<http://bit.ly/uniwheel-github>).
- Steel tube frame, sheet metal part design for battery/electronics housing done in Fusion 360. Wrote driver code for Silicon Systems DMU 11 IMU in C++ to integrate with the VESC motor controller for the PID balancing.
- Fabricated the chassis using MIG welding, and operated the manual CNC machine for tube coping. Did the PID Tuning and got the bike riding.

## EDUCATION

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### Bachelor of Science, Computer Science (Minor in Design Studies)

*Aug 2017 - May 2021*

Arizona State University

GPA: 3.71 / 4.0