

# KUNAL SINGLA

EXPECTED GRADUATION: DEC 2022

📞 425-290-2250 • ✉ kusingla@ucsd.edu • 🌐 www.tekunalogy.com • **in** tekunalogy • 🎧 tekunalogy

## EDUCATION

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**University of California - San Diego**, San Diego, CA Sept. 2019 – Dec 2022 📅  
**Major:** B.S. Computer Science  
Major GPA: 3.97  
Cumulative GPA: 3.7

## WORK EXPERIENCE

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**Amazon AWS (Backup Service)** – Seattle, WA June 2021 – Sept. 2021 📅

Software Dev Engineer I Intern

- Worked on EBS Direct APIs team which provides APIs for customers to interact with the EBS Snapshots (Backup and Data Protection) service of AWS.
- Developed an automated system that detects large amounts of invalid requests to EBS Direct APIs.
- System automatically logged metrics, stored/displayed activity data, and cut tickets to the team containing relevant information
- The automated system saved 1-3+ hours per ticket for on-call and senior engineers.
- Participated in design reviews with senior engineers to vet the workflow design of the project.
- Deployed and demoed project in Alpha and Beta phase.
- Technologies used: Java, AWS EC2, CloudWatch, DynamoDB

**UCSD - Triton Robosub** – San Diego, CA Nov. 2019 – Present 📅

Software Team Lead

- Software developer for underwater autonomous vehicles used for competition and research applications.
- In the process of designing custom motor control libraries and PID controllers in Python.
- Development of control system using ROS (Robot Operating System).
- Developing decision making ROS node utilizing computer vision (YOLOv2) and sensor feedback.
- Wrote a sensor library and driver for a Doppler Velocity Log in both C++ and Python
- Developed ROS packages to interface with sensors such as cameras, hydrophones, and a doppler velocity log (DVL) in Python.
- Technologies used: C++ , Python, ROS, Raspberry Pi, NVIDIA Jetson, ARM Assembly

**NASA Artemis Project (ISI)** – San Diego, CA June 2020 – Sept. 2020 📅

Software Engineering Intern

- Researched and developed an position estimation algorithm to doubly-integrate accelerometer data to position data with minimized drift.
- Ported a LIDAR range sensor driver in C++ from an Arduino-only system to standard C++ constructs.
- Developed PID stabilization system using LIDAR range sensors for lunar vehicle.
- Technologies used: C++ , Git, Raspberry Pi, LaTeX

**San Diego Supercomputer Center** – San Diego, CA June 2020 – Aug. 2020 📅

Software Engineering Intern

- Developed an IT Management web-tool to visualize data on VMs, storage clusters, and other services.
- Developed front-end in ReactJS using custom and open-source components.
- Assisted development of back-end using Django API for pulling data center information.
- Technologies used: ReactJS, HTML/CSS/JavaScript, Git, Figma