

# Sulekha Kishore

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## EDUCATION

### California Institute of Technology (Caltech)

2021-2025 (expected)

- B.S, double major in **Computer Science** and **Political Science** GPA: 4.1 / 4.3
- Cambridge University, Corpus Christi College, Study Abroad Program, Michaelmas (Fall) 2023

### Temple City High School, Temple City, California GPA: 4.0 / 4.0

2017 - 2021

## RESEARCH

### Computer Vision for Satellites

### Autonomous Robotics & Control Lab, Caltech

Prof. Soon-Jo Chung

Apr 2024 - Present

- Trained & deployed IR vision-based object detection model for satellite using knowledge distillation
- Developed & tested EdgeNode Lite satellite mission operations to enable on-orbit model training
- Created synthetic infrared spacecraft dataset to fill lack of real space data for model training

### Social and Information Networks Research

### Independent Research Project, Caltech

Prof. Adam Wierman

Apr 2024 - Oct 2024

- Developed novel algorithm to reduce polarization in social network graphs by leveraging common ground
- **Publication:** *IEEE Xplore*, "Finding Common Ground: a Two-Opinion Approach to Reducing Polarization in Networks." *2nd Best Paper Award*, MIT Undergraduate Research Technology Conference

### Computational Science Science Research

### Alvarez Group, Caltech

Prof. R. Michael Alvarez

Mar 2023 - Present

- Developed open-source probabilistic record linkage Python package to improve maintenance of voter registration databases by utilizing GPU computation. 35x speed up on testing of 1.8 million voter records
- *Paper under review, JOSS*. "Fast-ER: GPU-Accelerated Record Linkage and Deduplication in Python"
- Identification of demographic groups with high mail ballot rejections in 2022 Washington state election

### Data Pipeline for Real-Time Transient Detection

### Kasliwal Group, Caltech

Prof. Mansi Kasliwal

Jun 2022 - Sep 2022

- Created data pipeline for nightly data from WINTER, an IR telescope at Palomar Observatory
- Develop Python package: integrated WINTER data into open-source projects, SkyPortal & Kowalski
- **Publication:** "A data science platform to enable time-domain astronomy", *The Astrophysical Journal Supplement Series*, Vol 267, Number 2 (July 2023)

### NASA BIG Idea Challenge 2022: Extreme Lunar Terrain

### Caltech AIAA Team

Project Advisor: Prof. Soon-Jo Chung

Sep 2021 - Jun 2023

- Designed autonomy requirements for cabled system to transverse lunar regolith
- Lab manager of on-campus student-run lab for 60+ person team
- Project won Visionary Concept Award (engineering work & demonstration), 2022 BIG Idea Challenge

### Flight Software Development

### STAR Lab, MIT

Prof. Kerri Cahoy

Jun - Sep 2021

- Development of BeaverCube satellite flight software, integration & testing of 3 major sensors
- Designed flight software communications system, successfully launched & deployed in 2022

## PROFESSIONAL EXPERIENCE

### Software Engineering Intern

### Starfish Space, Seattle, WA

Satellite Operations Team

Jun - Sep 2023

- Created and successfully deployed on-orbit software update system for OtterPup satellite
- Developed PostGreSQL, Google Cloud backend database for live satellite data downlinking

### Undergraduate Admissions Ambassador

### Caltech, May 2023 - Present

- Student ambassador and blog writer for the undergraduate admissions office
- Tour guide (70+ campus tours given) and online & in person panelist for prospective students

## TEACHING (TA)

- Networks: Algorithms & Architecture (CS/EE 143), Caltech, Prof. Adam Wierman** **Fall 2024**
- Invited to develop 1st iteration of curriculum on network theory, online algorithms, and queuing theory
  - Host office hours and advise students on research presentations
- Decidability & Tractability (CS 21), Caltech, Prof. Chris Umans** **Winter 2023, Winter 2024**
- Host office hours for students and grade weekly proof-based sets for this Theory of Computation course

## LEADERSHIP & COMMUNITY SERVICE

- President, Science Olympiad Planning Team, Caltech** **Sep 2021 - Present**
- Lead team of 30+ to organize State Science Olympiad tournament for 2k+ students at Caltech
  - Raised \$50k in funds for tournament and science outreach
  - Led initiative to host 40 lab tours for middle & high school students and monthly science outreach nights
- Student Executive Committee & Board Member, Caltech Y, Caltech** **Feb 2022 - Present**
- Organize monthly events and volunteer for Caltech Y, an independent 501c3 organization
  - Student Activism Speaker Series (SASS) Committee Lead: organize & host over 30 speakers
  - Organized 6-part 2024 Election talk series, VP Debate Watch Party, & Election Night Watch Party
  - Student leader and organizer for 2024 D.C Science Policy Trip for 20 undergraduate & graduate students
- Captain, Aftermath (Ultimate Frisbee Team), Caltech** **Jan 2022 - Present**
- Organize 3x per week practices for 40-person team, compete in USAU Div III Southwest Division
- Elected Representative, Board of Control, Caltech** **Apr 2022 - Present**
- 4 year elected member on campus-wide committee adjudicating academic Honor Code violations
  - 1 of 6 students selected for faculty & student Honor Code Steering Committee
- Research Ambassador, Student-Faculty Programs, Caltech** **Sep 2024 - Present**
- Assist undergraduates with summer research opportunities through Caltech's research programs
  - Organize monthly workshops & office hours for assisting students with the application process
- Vice President, Windsurf and Surf Club, Caltech** **Jan 2022 - Present**
- Organize & promote surf trips for 300+ members, host women/gender-minority surfing trips

## AWARDS and HONORS

- Arnold O. Beckman Political Award, Caltech Y** **Nov 2024**
- Awarded \$6k for summer internship exploring voting systems, technology, & election administration
- Carl F. Braun SURF Fellow, Caltech** **Summer 2024**
- Summer Undergraduate Research Fellowship (SURF) funding, advised by Prof. Soon-Jo Chung
- SanPietro Travel Prize, Caltech** **Jun 2024**
- 1 of 2 students awarded for 2-weeks of travel in Greece, exploring historical and natural sites
- Club of the Year: Science Olympiad Planning Team, Leadership Award, Caltech** **Jun 2024**
- Awarded for leadership & outstanding impact on campus & wider-community through Science Olympiad
- Certificate of Congressional Recognition, U.S. House Representative Judy Chu (CA-28)** **Apr 2024**
- In recognition of unwavering dedication and commitment to supporting academic excellence and for creating opportunities for students in science
  - Leadership and planning of the 2024 Southern California State Science Olympiad Tournament for over 2000 students from across Southern California
- Alan Porter Memorial SURF Fellow, Caltech** **Summer 2022**
- Summer Undergraduate Research Fellowship (SURF) funding, advised by Prof. Mansi Kasliwal
- TechGirls Alumni Outreach Ambassador, U.S. Department of State** **Jul 2020**
- Awarded by US Bureau of Educational and Cultural Affairs for exceptional voluntary services in efforts to promote exchange experiences across the US and continued engagement with international TechGirls
  - Assisted international TechGirls with community projects virtually in Uzbekistan & Algeria