Subhash C. Kantamneni

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EDUCATION

Massachusetts Institute of Technology (MIT) | Cambridge, Massachusetts Exp. May 2024
Candidate for B.S. in Physics and Computer Science; Autonomous Machines Track

- **GPA:** 5.0 | **Relevant Coursework:** Software Design, Algorithms, Embedded Systems, Quantum Physics I/II

Suncoast Community High School | Riviera Beach, Florida Aug 2016 – Jun 2020

- **GPA:** 4.0 | **ACT**: 36 | Valedictorian, National Merit Finalist, National AP Scholar, Kovner Scholar ($40,000)

WORK EXPERIENCE

Exoplanet Discovery Group | Jet Propulsion Laboratory Jun-Aug 2021

- Automated verification and validation for the EXCALIBUR exoplanet atmospheric analysis pipeline using ML
- Explored classical machine learning and advanced data simulation techniques while writing production level code
- Deployed code as a permanent addition to the EXCALIBUR pipeline with results to be published

ARC Solving Group | MIT Center for Brains, Minds, and Machines Oct – Jan 2020

- Created new Python primitives to achieve 20 of the group's 100 cumulative solves on ARC (the 'IQ test' for AIs)
- Ran cluster jobs frequently and was directly involved with the overall direction of the AI model

Research Science Institute | MIT Jun - Aug 2019

- Recalculated theoretical stellar isochrones using Non-Local Thermodynamic Equilibrium (NLTE) conditions
- Worked at MIT's Kavli Institute for Astrophysics and was recognized as a top 10 oral presenter

Hubble Space Telescope Group | Florida Atlantic University Aug 2018 – Dec 2019

- Calculated a more accurate distance to the WLM galaxy through RR Lyrae variable star analysis
- Analyzed Hubble Space Telescope photometric data using Python, specifically NumPy and Matplotlib

Max Planck Institute for Neuroscience Internship | MPFI Jun – Aug 2018

- Engineered a mass-produced rodent-treadmill mounting system for virtual reality memory experiments

TECHNICAL SKILLS

TypeScript: Well-trained in writing clean, maintainable code and implementing industry style automated unit testing
Python: Utilized the language for extensive research projects, specifically the Matplotlib, SciPy, and NumPy libraries
C: Created Arduino projects including a self-driving vehicle and a light-sound alarm clock integrated with a web interface
Linux: Commonly use the OS for research projects; experienced in Git, Bash scripting, and submitting batch jobs

LEADERSHIP AND VOLUNTEERING

Leadership Training Initiative | Leadership Mentor Sep 2020 – Present

- Mentored a group of 15 Boston public school students for 3 months in leadership and public speaking
- Designed weekly leadership exercises that kept students engaged while improving their communicative abilities

Education Students Program | Teacher | Administrator Sep 2020 – Present

- Helped design and develop virtual programs to host classes for thousands of Boston public high school students
- Taught classes in business fundamentals, utilizing expected value, and evaluating theories to 175+ students

MATHCOUNTS Coaching | Bak Middle School of the Arts Aug 2017 – Feb 2019

- Developed an exhaustive curriculum and online resources in addition to teaching in person for 100+ hours
- Coached Bak to 4th place in the state and back-to-back county championships after years of not placing at county

Research Science Institute Counselor | MIT Jun – Aug 2020

- Worked for over 150 hours to help create the first-ever virtual RSI
- Pioneered a big brother mentorship system and created new social events (Zoom Olympics, fashion show, etc.)

Science Olympiad | President | Vice President | Member and Competitor Aug 2016 – May 2020

- Organized the 80+ person club and led them to qualify for the state tournament for the first time ever

SELECTED AWARDS

Competitions: Princeton University Physics Tourn. Top 25 Individual, University of Alabama Physics Competition Champion, 2x U.S.A. Physics Olympiad Semifinalist, American Invitation Mathematics Examination Qualifier
Research: 2x International Science and Engineering Fair Qualifier, Regeneron Science Talent Search Semifinalist