

# Parthiv Chigurupati

Robotics and  
Machine Learning  
Intern at the U.S.  
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Laboratory

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To whom it may concern,

I am very interested in the Software Engineer Internship at Cloudflare. I have a strong interest in software engineering and backend software development. Through experiences at Thomas Jefferson High School for Science and Technology, Yext, and the U.S. Naval Research Laboratory, I have gained experience with software engineering and mastery over algorithms and data structures in both educational and professional environments.

Over the past four years as a student at TJHSST, I have been able to take post-AP courses such as artificial intelligence and computer vision, where I was first introduced to complex and efficient data structures and algorithms. Outside of the classroom, I was able to represent our school in an international programming competition, placing 3rd in the world at the 9th e-ICON World Contest in Busan, South Korea. Additionally, at TJ's Computer Systems Laboratory, I am currently developing an optical lie detection system, based on a neural network I wrote and trained on 1.3 million data points received from the University of Rochester. Throughout these experiences at TJ, I became very well-versed in Python, C++, Go, Java, JavaScript, HTML, and CSS, and have a working proficiency in SQL and ReactJS.

In the past two years, I have worked part-time 20-40 hours per week at the U.S. Naval Research Laboratory, developing computer vision and machine learning code for their Robotic Servicing of Geosynchronous Satellites satellite. Thanks to a special waiver that allowed me to substitute my high school classes with time at the NRL, I was able to develop a computer vision guidance algorithm, capable of guiding the two-six degree of freedom robotic arms with submillimeter precision. Additionally, I developed an extremely efficient neural network, which analyzed data from over 200 telemetric sources to act as an early warning system in case the satellite began displaying any anomalous behavior. Since then, I have written artificial intelligence data-verification algorithms at Yext for clients like Best Buy and Farmers Insurance. Through my experiences at Yext and the U.S. Naval Research Laboratory, I have gained professional experience writing and managing software throughout the entire development cycle. I have also learned how to use machine learning libraries such as TensorFlow, PyTorch, and Keras as well as industry tools such as Jira, Storm, and Git version control. All of these experiences have helped me build up my knowledge base in software development, and I am looking to pursue new roles that would leverage this skill set.

I am currently enrolled in a combined bachelor's and master's computer science program at Cal Poly San Luis Obispo with a planned graduation date in the fall of 2023, and I am available to commit to a 12-week remote internship.

My summer internship with Amazon Web Services was recently canceled due to COVID-19, so I am excited to apply for this position because of the similarity in required skill set, responsibility, and impact on a global service that is becoming ever more necessary in this time of quarantine. I appreciate my candidacy being considered and thank you for your time.

Sincerely,

**Parthiv Chigurupati**