Rohan Sinha

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Education

University of California, Berkeley – Berkeley, California. 2015 – 2019.
Fourth year B.S. in Mechanical Engineering, Electrical Engineering and Computer Science. Pi Tau Sigma, Tau Beta Pi member. Current Cumulative GPA: 3.9.

Lorentz Casimir Lyceum – Eindhoven, Noord-Brabant, The Netherlands. 2009-2015
Graduated Magna Cum Laude from Dutch Pre-University Gymnasium (VWO Gymnasium) public high school. The VWO Gymnasium level makes up approximately the top 4% of all Dutch high school students.

Experience/Work Experience

Researcher, Model Predictive Control Laboratory at UC Berkeley – Berkeley, California. 2018 -present
Research on data-driven control algorithms. Currently working on Learning Model Predictive Control strategies for multi-agent autonomous racing under Professor Francesco Borrelli.

Software Engineering Intern, Amazon.com Inc. – San Francisco, California. 2018
Software Engineering Intern at Amazon Digital Music. Worked on a data engineering project to collect and analyze data throughout the Music Search pipeline to monitor and manage the large scale distributed search cluster system.

Academic Intern for Computer Science 61B, Faculty of Computer Science at UC Berkeley – Berkeley, California. 2018
Lab Teaching Assistant for Computer Science 61B at UC Berkeley. CS61B is a fundamental software engineering course covering OOP, data structures, introductory graph theory, and other important programming concepts.

Co-Founder and President, Berkeley Goldeneye Student Engineering team – Berkeley, California. 2017 – present
Current Work: Leading industry funded automated driving research team. Projects in behavior prediction, motion planning and control, obstacle avoidance and target interception, lane detection, object detection/sensor fusion. Collaborating with Professor Borrelli's MPC lab to test and aid in the development of the Berkeley Autonomous Race Car (BARC), assisting in course development for ME131 (Vehicle Dynamics & Control).
Previous Work: Founded and led a student engineering team to design a new generation of innovative supersonic aircraft for the NASA Advanced Aerial Vehicle Challenge.
Co-authored papers on wing design, fuselage design, and jet propulsion.

Autonomous Driving Engineering Intern, Aptiv (formerly Delphi Automotive) – Mountain View, California. 2017
Summer internship working on Self-Driving Cars for Delphi automotive in the Delphi (Ottomatika), Intel/Mobileye, BMW Partnership. Developed and validated high fidelity vehicle dynamics models and utilized them to perform exploratory research projects in combination with optimization and estimation techniques such as nonlinear Kalman filtering (EKF, UKF, etc) and reinforcement learning.
Projects in: Autonomous Driving Simulation, Automatic Fault Detection, Control/Ride Tuning based on process variability, Trajectory Generation and Motion Planning (obstacle avoidance), Parameter and State Estimation.

Researcher, Berkeley Center for Identification and Control – Berkeley, California. 2016 –2017
Independent researcher for Professor Packard in the Berkeley ME department. Research area: Signal Processing in Drones and Quadcopters.

Leadership Team at California Sailing Team – Berkeley, California. 2016 – 2017
Member of leadership board/officer on the California Sailing Team. Officers are tasked with organizing practices and regattas, managing the 15 ship fleet, controlling the team's finances and spending, maintaining corporate and alumni relations, and leading the team in general.

Honors and Awards

NASA Aeronautics Advanced Aerial Vehicles Student Challenge – Langley, VA. 2017
Winner of third place in NASA student Challenge out of 26 competing teams as President of Berkeley Goldeneye. Only student team to win a prize without any aerospace engineering students.

College of Engineering Dean's Honors – Berkeley, California. 2015 -
The top 10% of students in the College of Engineering at UC Berkeley receive the Dean's Honors each semester. Held Dean's Honors for all semester at Cal so far.

National Physics Olympiad – the Netherlands. 2015.
Ranked in the top 10 in the National Dutch Physics Olympiad, out of all 900.000 Dutch high school students.

National Chemistry Olympiad – Netherlands. 2015.
Ranked in the top 70 in the National Dutch Chemistry Olympiad, out of all 900.000 Dutch high school students.

Skills and Interests

Languages: Fluent in English, Dutch. Proficient in French, German. Extensive knowledge of Ancient Greek.
Technical software skills: Python, Java, C/C++, Matlab, RISC-V, ROS, JS, Autocad, Solidworks, Simulink, LaTex.
Interest areas: Robotics, Dynamic Systems & Controls, Autonomous Systems, Aerospace and Automotive vehicles.