

Juan SERRATOS

PERSONAL

PLACE AND DATE OF BIRTH: California, United States | 13 June 2002
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RESEARCH INTERESTS

-
- Algebraic and Arithmetic Geometry
 - Commutative Algebra

EDUCATION

2024 University of Southern California (USC)
Bachelor's Degree in PURE MATHEMATICS, HONORS

RESEARCH EXPERIENCE

AUGUST-DECEMBER 2022	Directed Research at USC Studied the developments of algebraic geometry from the '60s and onward under Arivand Asok—focusing on background required for the Weil Conjectures and étale cohomology. Participated in MATH 614 (TOPICS IN ALGEBRAIC GEOMETRY: ALGEBRAIC GROUPS AND ACTIONS) at USC, a graduate course on algebraic geometry, mainly using <i>Introduction to Algebraic Geometry and Algebraic Groups</i> by Michel Demazure. Finished with a thesis-like paper written throughout the months leading up to December; paper can be found here Reference: Dr. Aravind Asok
AUGUST-DECEMBER 2022	Undergraduate Research Project at USC Focused on reading and progressing through Milne's <i>Lecture's on Étale Cohomology</i> and unsorted papers found online in a similar context.
JANUARY-MAY 2022	Undergraduate Research Project at USC Participated in an undergraduate departmental reading project—we are paired up with graduate mentors to source and study mathematics we're interested in. Mainly learned the basics of scheme theory via Hartshorne's <i>Algebraic Geometry</i> and Vakil's <i>The Rising Sea: Foundations of Algebraic Geometry</i> .

SEMINAR TALKS

DECEMBER 2022	Étale Cohomology and the Weil Conjectures
MAY 2022	Arithmetic Schemes: David Mumford depiction of $\text{Spec } \mathbf{Z}[x]$