

Sangman Lee

Curriculum Vitae

sangman.math@gmail.com | LinkedIn | Personal Website

EDUCATION

University of Colorado Boulder PhD in Mathematics Dissertation: <i>Computational Complexity of the Subpower Intersection Problem for Semigroups</i> Advisor: Dr. Peter Mayr	2026
University of Colorado Boulder MA in Mathematics	2020
California State University, Northridge BS in Mathematics; Minor in Computer Science	2017

RESEARCH AREAS

Computational complexity of algebraic decision problems; finite semigroup theory.

DISSERTATION

Computational Complexity of the Subpower Intersection Problem for Semigroups Dissertation, University of Colorado Boulder.	2026
• Proved that the Subpower Intersection Problem is tractable for every finite commutative semigroup. • Established a P/NP-complete dichotomy for finite bands. • Established a P/NP-complete/PSPACE-complete trichotomy for Rees matrix semigroups with an adjoined identity.	

EXPERIENCE

Instructor, University of Colorado Boulder	2018–2022 and 2025–2026
Teaching Assistant, University of Colorado Boulder	2017 and 2024
Courses: Calculus I, II, and III (single-variable and multivariable calculus).	
Mandatory Military Service, South Korea	2022–2024
Served in the Fire Direction Center of a field artillery unit.	

TALKS

- “Complexity Dichotomies for the Subpower Intersection Problem in Finite Semigroups.” BLAST 2026, Baylor University, Waco, Texas, May 20, 2026.
- “The Subpower Intersection Problem for Finite Semigroups.” Panglobal Algebra and Logic Seminar (PALS), online, April 14, 2026.
- “The Subpower Intersection Problem for Commutative Semigroups and Normal Bands.” AMS Fall Western Sectional Meeting, Special Session on Algebras and Algorithms, III, University of Denver, Denver, Colorado, August 24, 2025.
- “The Subpower Intersection Problem for Semigroups.” BLAST 2025, University of Colorado Boulder, May 20, 2025.