# A Hyeon (Lauren) Song

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## OBJECTIVE

Seeking research opportunities where I can apply a strong foundation in computational biology, mathematical modeling, and biomedical research to contribute to projects at the intersection of computation and biomedicine. Eager to gain hands–on experiences and develop research skills in preparation for future graduate studies in this field.

## EDUCATION

**University of Florida**, Gainesville, FL – B.S. Mathematics Jan 2025 - Dec 2026 (Expected)

**University of South Florida,** Tampa, FL – B.S. in Computer Science 2022 – Dec 2024

## RELEVANT COURSEWORK

Programming Organization | Probability and Statistics for Engineers | Intro to Discrete Structures | Linear Algebra 1 | Differential Equations for Engineers and Physical Scientists | Linear Algebra for Data Science

## EXPERIENCES

**Directed Reading Program Mentee**, University of Florida Jan 2026 – April 2026, Gainesville

• Participating in a mentored reading program on mathematical optimization of drug regimens using optimal control theory, analyzing PDE-based pharmacokinetic models and combination therapy scheduling.

• Studying semi-mechanistic dynamical systems modeling of diseases (cancer immunotherapy, liver transplant immune dynamics) and Lagrange multiplier methods applied to biomathematics.

**Research Student**, Undergraduate Research Society Aug 2024 – April 2025, Tampa

• Conducted a systematic review comparing Cologuard (MT-sDNA) and colonoscopy in early CRC detection; evaluated specificity, sensitivity, and missed adenoma rates, and missed adenoma rates across 36 studies.

• Concluded that combining Cologuard with colonoscopy maximizes detection, with Cologuard's non-invasive nature improving patient compliance and colonoscopy remaining the gold standard for high-risk individuals.

• Built performance comparison charts and conducted PRISMA-guided literature screening; findings presented as a research poster at USF's Undergraduate Research Conference.

**Research Student**, Undergraduate Research Society Oct 2023 – April 2024, Tampa

• Conducted a systematic literature review on the global impact of telehealth for healthcare-deprived and low-resource communities during and after the COVID-19 pandemic.

• Investigated mobile imaging technologies, AI-driven remote diagnostics, and chronic disease management via telehealth, highlighting intersections with health equity and financial accessibility barriers.

## PROJECTS

**Manufacturing Educational Robot** April 2024, Tampa

• Led a team to design and manufacture an educational robot, contributing to the design and programming for 3D printing.

• Optimized the robot performance to meet kid-friendliness requirements while ensuring cost-effective production under a limited budget of approximately $40.

## SKILLS

**Technical:** Python, Microsoft Office Suite, LaTeX, Thinker CAD, Blender

**Research Methods:** Systematic literature review, PRISMA methodology, Rayyan screening, Data visualization