Bradley J. Elder

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Objectives

Motivated Systems Engineering major with a Computer Science minor seeking a summer internship to apply analytical problem-solving, data-driven decision-making, and systems design skills in a collaborative environment.

Education

University of Virginia (UVA), Charlottesville, VA

- First Year - bachelor's ***Systems Engineering*** and Minor in ***Computer Science***

Work Experience

Generative Charities Internship: Software Engineer Intern (Summer 2025)

- Conducted ***Systems Analysis*** to design initiatives that elevate smaller U.S. charities, improving their capacity to deliver personalized support to those in need.
- Designed, and implemented a web platform using ***python, HTML,*** and ***Amazon Web Services (AWS)*** to advance the mission and values of the Generative Charities startup.

Crystal Aquatics Lifeguard: Head Guard and Pool Operator (2021-2025)

- Supervised the junior lifeguards to ensure all safety rules and regulations are adhered to.
- Responsible for the maintenance of the water pumps, the water chemicals, all pool access policies, and the overall cleanliness of the community pool.

Metro DC-VA state referee: State and Competitive Travel soccer referee (2019-current)

- Responsible for the safety of all the players and spectators during the duration of the games
- Ensure all the FIFA game rules and regulations are enforced to allow everyone attending the game to play fair and have fun.

Research

Natural User Interface (NUI) in Virtual Reality (2025)

- Analyzed prior research on the impact of gesture-based interaction on student learning outcomes.
- Developed an interactive Towers of Hanoi game in ***Unity (C#)*** to study peer-to-peer teaching and learning in a virtual reality environment.

Coursework Experience

Systems Engineering Concepts (SYS 2001) (2025)

- Collaborated with real-world clients in case studies to define problems and propose data-driven solutions.
- Applied ***Systems Analysis frameworks*** such as requirements analysis, system representation, and decision analysis to evaluate alternatives.
- Practiced a full systems engineering lifecycle approach, from goal definition through assessment and evaluation.

Geospatial Techniques (GEOG 161) (2023-2024)

- Evaluated current patterns of carbon emissions produced by Nike's supply chain management and created better airplane and truck routes to lessen carbon emissions using geospatial techniques.
- Utilized ***ArcGIS Online*** applications and tools.

Clubs and Extracurricular Experience

Mechatronics and Robotics Society (MARS): Computer and Systems Engineering Subteams (2025 - present)

- Utilize ***Systems analysis*** thinking to produce a robot for the NASA Lunabotics competition
- Utilize ***python, C++, Github,*** and ***User Interface*** to design and connect all the components of the robot.

Competitive Programming Club: Meet once a week to take on challenging coding problems (2024-current)

- Work as a team to complete hard coding problems.
- Partnered with each other to complete challenging coding problems.
- Have lessons every week to improve our knowledge of programming.