

# GRANT MCNAUGHTON

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## EDUCATION

### North Carolina State University (NC State), Raleigh, NC

May 2025

Bachelor of Science in Mathematics, Minor in Teaching English

Summa Cum Laude, 3.8 GPA

Undergraduate coursework also completed at Appalachian State University in Boone, NC

## PROJECTS - Full source code and reports available on GitHub

- Built and analyzed predictive models using MATLAB, R, and Python as part of coursework in machine learning and statistical inference.
- Modeled physical and environmental systems using dynamic system equations and perturbation methods to analyze system responses under varying conditions.
- Developed cryptographic algorithm proofs and implementations involving RSA and elliptic curve methods.
- Demonstration of the effectiveness of Reed-Solomon and Berlekamp-Welch algorithms, including mathematical proofs and demonstrated ability to correct for up to 25% file corruption.
- Applied regression techniques to evaluate multivariate data and determine predictive relationships in statistical modeling coursework.

## TECHNICAL SKILLS

- Programming & Tools: Python (NumPy, pandas, scikit-learn), R, MATLAB, SQL, ArcGIS
- Data & Analytics: Machine learning algorithms, regression and statistical inference, multivariable systems modeling
- Mathematics & Engineering: Control theory, dynamic multivariable systems, modeling using calculus and perturbation-based methods
- Cryptography: Reed-Solomon, elliptic curve encryption, RSA, understanding of common algorithms

## NOTABLE COURSEWORK

- Dynamic Systems and Control Theory (Open and Closed Loop)
- Mathematical Foundations of Data Science
- Methods of Applied Mathematics for Modeling
- Applications of Algebra to Computer Algorithms
- Statistical Inference and Regression Methods

## EXPERIENCE

### Shift Supervisor, Starbucks, Raleigh, NC

July 2022 - Present

- Manage a team of 9 baristas to ensure shifts run smoothly and safety standards are met.
- Process sales of \$8000/day, ensuring orders are fulfilled in under 3 minutes with 99% accuracy.
- Manage inventory and product ordering. Anticipate demand for core and seasonal offerings.
- First point of contact for customer issues. Able to quickly resolve problems and ensure client satisfaction.

### Student Teacher, Athens Drive High School, Raleigh, NC

January 2025 - April 2025

- Worked in a high school ESL classroom with students from around the world to teach English language and American culture.
- Worked with students with no previous formal education, many coming from refugee backgrounds.
- Helped students build confidence in school, develop healthy habits, and learn to navigate the school system.

### Global Ambassador, NC State Office of Global Engagement, Raleigh, NC

August 2023 - April 2025

- Organized and hosted events to promote international awareness and cross-cultural competence on campus.
- Lead tours, managed tabling, developed activities and games, promoted events on social media.

- Hosted foreign professors, academics, and business leaders on campus.

**Tutor, Student Learning Center, Boone, NC**

**August 2021 - April 2022**

- Tutored students in mathematics, French, and Japanese. Built long-term instructional and academic support plans tailored to individual student needs.
- Taught students proper study habits and built their self-esteem in subjects they were previously afraid of.

**Treasurer, International Appalachian, Boone, NC**

**October 2020 - April 2022**

- Managed a \$3000 annual budget for events promoting study abroad and internationalization on campus
- Reviewed scholarship applications and helped set awards in coordination with the Office of International Education and Development.

**LANGUAGES**

- Advanced French (9 years of formal study)
- Intermediate Japanese (5 years of formal study)