

# Alexander Wiegand

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## EDUCATION

### Stony Brook University Honors College

B.E. in Computer Engineering

B.S. in Applied Mathematics & Statistics

Stony Brook, NY

Expected May 2028

Expected May 2028

- **Cumulative GPA:** 3.93 / 4.00; **Major GPA:** 4.00 / 4.00; **Honor:** Dean's List
- **Relevant Coursework:** Linear Algebra, Discrete Mathematics, Multivariable Calculus, Advanced Programming with C++, Data Structures & Algorithms

## WORK EXPERIENCE

### Stony Brook University

Tutor

Stony Brook, NY

Aug 2025 – Present

- Tutored 15+ students in advanced programming, linear algebra, and discrete mathematics
- Collaborated with professors and coworkers to refine instructional materials and strategies to improve student outcomes
- Designed and developed original tutoring materials tailored to individual student needs

### Data Annotation

LLM Model Analyst (Machine Learning / RLHF)

New York, NY

May 2023 – Aug 2025

- Improved large language model performance using Python-based reinforcement learning from human feedback (RLHF)
- Implemented quality-control logic to assess multi-turn reasoning consistency and correctness
- Contributed 100+ multi-turn training conversations used by major enterprise clients including Expedia and NTT

### Lavner Education

STEM Instructor

Garden City, NY

May 2025 – Aug 2025

- Reached out to and closely worked with other interns and professionals to create and deliver advanced math and coding content to middle school students
- Awarded Best Instructor of the Week

## PROJECTS

### AI Nerf Turret

Independent Project

Jan 2025 – Jan 2026

- Designed and implemented a real time pan-tilt control system using OpenCV and YOLOv8 for autonomous tracking
- Developed predictive actuation using proportional velocity scaling and response curve modulation to enhance tracking
- Applied kinematic modeling and adaptive feedback mechanisms to compute target-centric servo aim points
- Consulted with faculty advisors and industry professionals to evaluate possible research extensions

### Clue (Cluedo) AI Solver

Independent Project

Nov 2025 – Jan 2026

- Built a symbolic inference engine using Python and PySAT to model uncertainty and deduce hidden information
- Used heuristic modeling to calculate expected value for decision making
- Applied discrete mathematics to implement constraint-based reasoning on 160+ size sets of incomplete symbolic data

## LEADERSHIP EXPERIENCE

### Stony Brook Robotics

System Lead

Stony Brook, NY

Aug 2025 – Present

- Led a team of 3 integrating distributed control systems using ROS2, emphasizing reliability and modular design
- Reported weekly to the project manager
- Competed in the international MATE ROV competition
- Collaborated with 5+ other system teams and 30+ people to build and maintain a production level codebase

### Stony Brook Esports

Varsity Captain, Varsity Player

Stony Brook, NY

Sep 2024 – Present

- Led two varsity teams in high pressure competitive environments
- Optimized strategy under time constraints using performance review and iteration
- Managed scheduling, communication, and performance analysis for 10+ players and staff
- Coordinated team communication and in game strategy in high pressure competitive environments

## CERTIFICATIONS

- Introduction to Artificial Intelligence with Python – Harvard University
- Introduction to HTML & CSS – Microsoft

## SKILLS

**Tools & Coding Languages:** Python, C++, JavaScript, Excel, Numpy, Pandas, PowerApps, PowerAutomate, TensorFlow, React, ROS, ROS2, YOLO

**Skills:** Machine Learning, Probabilistic & Algorithmic Modeling, Optimization & Large-Scale Data Analysis, Logical Analysis, Linux, APIs, Git, GitHub

**Interests:** Formula One, Financial Markets, Italian Cooking, Aviation, Jet Skiing, Golf