

Julia Dymnicki

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EDUCATION

- West Morris Central High School** Chester, NJ
High School Diploma, International Baccalaureate Diploma *Aug. 2018 – May 2022*
- Honors College –Rutgers University** New Brunswick, NJ
Bachelors of Science in Computer Science and Cognitive Science, GPA 3.7 *Aug. 2022 - May 2026*
- Relevant Coursework: Data Structures & Algorithms, Computer Architecture, Database Management Systems, Data Science, Discrete Structures, Physics I & II, Linear Algebra, Calculus I & II, Internet Technology

EXPERIENCE

- Data Structures Teaching Assistant** Jan. 2023 – Jan. 2025
Professor Ana Centeno, Rutgers University *Piscataway, NJ*
- Facilitated the weekly learning progress of 100+ students in introductory programming while developing instructional materials for 15 recitations.
- Introductory Programming Tutor** Mar. 2023 – Present
Professor Jamie Liao, Rutgers University *Piscataway, NJ*
- Assisted 300 students in debugging Java code, motivating female students through personalized review sessions.
- Lead Exam Proctor & Grader** May 2023 – Present
Professor Apoorva Goel, Rutgers University *Piscataway, NJ*
- Led team of 7 proctors for 21 exams & 48 assignments for introductory computer science courses while streamlining exam administration processes for 1000+ students.
- Social Chair & Panhellenic Delegate** Aug. 2023 – July 2024
Alpha Omega Epsilon, Rutgers University *New Brunswick, NJ*
- Increased event attendance by 30% by organizing 15 major social events alongside other greek organizations.
- Demarest Hall Resident Assistant** Aug. 2024 – Present
RLC Emily Green, Rutgers University *New Brunswick, NJ*
- Mediated roommate issues & facilitated events for 300 residents while managing administrative duties by completing 43 incident reports.
- Undergraduate Research Assistant** March 2025 – Present
Vicario Lab, Rutgers University *New Brunswick, NJ*
- Conducting a Honors Thesis reverse engineering DeepLabCut output in Python to analyze zebra finch head movement patterns and infer auditory stimuli, integrating computer vision and behavioral neuroscience methods.
 - Developing a custom Anaconda-based pipeline for pose estimation data extraction and processing, mapping behavioral responses to sound categories and applying machine learning models in PyTorch and TensorFlow to achieve 78% classification accuracy.
- Psychology Research Assistant** May 2025 – Present
Konova Lab, Rutgers University *New Brunswick, NJ*
- Developing tasks to explore foraging behavior under uncertainty with application to Obsessive-Compulsive Disorder (OCD) and Alcohol Use Disorder (AUD) using MATLAB.
 - Synthesizing literature spanning neuroscience, cognitive psychology, and computational modeling to guide hypotheses and experimental design for ongoing lab research.

PROJECTS

- NJ HDMA Loan Interface** | *Python, PostgreSQL, Llama.cpp, Paramiko* Mar. 2025
- Developed a fully normalized PostgreSQL database for HDMA loan data with a Python-based natural language-to-SQL interface using llama.cpp, and deployed secure remote querying via SSH (Paramiko) to connect a local LLM interface with Rutgers' iLab database servers.
- Fake News Headline Detection** | *Python, Scikit-learn, TF-IDF, DynamoDB, Git* Apr. 2025
- Developed an end-to-end fake news detection system in Python integrating TF-IDF vectorization, NLP techniques (NLTK, scikit-learn), hierarchical clustering, and a logistic regression evaluation module with Seaborn/Matplotlib, alongside an automated web scraping pipeline for continuous dataset updates, achieving 97% accuracy.
- Pipeline for Zebra Finch Behavior** | *Python, Anaconda, MATLAB, DeepLabCut, Pytorch, TensorFlow* May 2025
- Integrating computer vision, behavioral analysis, and auditory neuroscience techniques into a unified experimental framework to reverse engineer DeepLabCut for behavioral neuroscience applications.

PUBLICATIONS

- Cross-Linguistic Translatability of Thick vs. Thin Terms** | *Honors Capstone* Feb. 2025
- Preparing a manuscript to investigate the cross-linguistic translatability of evaluative versus descriptive terms related to emotional attachment across Polish, English, and Spanish.
- Un-Artificial Intelligence: A Computational Exploration of the Mind** | *Published Textbook* Jan. 2025
- Authored a chapter on problem-solving and decision making alongside 100 students and faculty to publish an undergraduate textbook introducing core concepts in cognitive science.
- Cross-Linguistic Event Cognition** | *Published Literature Review* Mar. 2025
- Proposed future directions for refining linguistic typologies to better account for dialectal variation, bilingual cognition, and motion event processing.
- Essentialist Beliefs and Social Identity** | *Experimental Research Proposal* May 2025
- Extended Haslam et al.'s (2000) two-factor model of essentialism by incorporating participant identity variables and intersectional analysis using PCA, ANOVA, and moderation analyses.

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS, MongoDB, Oracle
Developer Tools: Git, VS Code, Anaconda, Jupyter, Eclipse, MATLAB, Linux, Windows, Microsoft
Libraries: Pandas, NumPy, Matplotlib, TensorFlow, Pytorch, Hugging Face, Ollama, Seaborn