

JULIA G. PAPP

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EDUCATION

Cornell University, College of Arts and Sciences

Ithaca, NY

Bachelor of Arts in Computer Science

Expected May 2025

Relevant Coursework:

- Machine Learning, Natural Language Processing, OO Programming & Data Structures, Designing Fair Algorithms, Information Retrieval, Functional Programming, Algorithms Analysis, Computer System, Operating Systems
- Discrete Structures, Probability Models and Inference, Linear Algebra, Calculus I-III

EXPERIENCE

Microsoft | Redmond, WA

○ **Software Engineer Intern** | *ES365 Automation Team*

May - Aug. 2024

- Developed a robust in-place debugging solution that streamlined multi-machine topology reservations, eliminating the need to recreate debugging environments from scratch, resulting in a 30% boost in efficiency
- Leveraged C# and ASP.NET Core model binding to develop an interface displaying available virtual machines
- Ensured code reliability by achieving 100% test coverage using AAA mock testing within the .NET framework

Hack4Impact at Cornell University | <https://www.cornellh4i.org/> | Ithaca, NY

Cornell chapter of an award winning project team, creating technical solutions with nonprofits around the world.

○ **Engineering Chair** | *Core Leads*

May 2023 - Present

- Ensured technical success of all teams within Hack4Impact by mentoring tech leads, PMs, and developers
- Held workshops to improve career readiness and familiarize the team with different technical skills
- Led onboarding hackathon for new members to ensure they are comfortable with different tech stacks and Git

○ **Software Developer** | *Environmental Data and Governance Initiative (EDGI)*

Sept. - Dec. 2023

- Created Streamlit webpage to display facility violations in multiple industries in all US counties to make them accessible, easily digestible, and informative for journalists, students, and informed members of the public
- Implemented interactive mapping to visualize county-based Environmental Protection Act violation data

○ **Product Designer** | *Lagos Food Bank Initiative (LFBI)*

Sept. 2022 - 2023

- Conducted user research with active volunteers to find issues with the volunteer management profile for LFBI
- Streamlined signup process by centralizing it for all programs offered by LFBI for both web and phone platforms
- Prototyped high fidelity designs on Figma and worked with software engineers to launch products

Bower's C-IS at Cornell University | Ithaca, NY

○ **CS2850 - Networks Teaching Assistant** | *Class Details*

Sept. 2023 - Present

- Instructed applying graph & game theory to analyze networks in computing, economic, sociological contexts.
- Fostered comprehension of concepts including web dynamics, market dynamics, contagion, and network evolution.

○ **CS4820 - Analysis of Algorithms Teaching Assistant** | *Class Details*

Jun. - Aug. 2023

- Instructed on algorithm design techniques such as greedy algorithms, divide-and-conquer, DP, and network flow
- Guided students on proof of correctness construction for intractable problems and NP-completeness, and more

PROJECTS

Author Explorer | [Find Your Favorite Authors](#)

Spring 2024

- Developed an ad-hoc information retrieval system to suggest authors based on user input using minimum edit distance, TF-IDF, and cosine similarity on book reviews from Goodreads with 4 other software engineers
- Incorporated SVD for dimensionality reduction and improved similarity scores, enhancing user experience with dynamic author suggestions and genre-based similarity interpretations

Algorithmic Equity Audit: Disaster Recovery Grant Analysis | [Road Home Audit](#)

Spring 2024

- Conducted a comprehensive feature importance analysis using Random Forest and Gradient Boost models to evaluate the impact of aid distribution on marginalized communities post-Hurricane Katrina
- Analyzed the relationship between demographics and aid with statistical parity, calibration, demographic balance

Can Speech-to-Text Ever Be Fair? | [Algorithmic Audit of Microsoft's STT API](#)

Spring 2024

- Analyzed performance of Microsoft's speech-to-text API across various demographics using edit distance, cosine similarity, Jaccard distance, and compression and phonetic-based methods
- Preprocessed data and utilized Python to reveal performance disparities among dialects and racial groups

Predicting Recidivism | [Algorithmic Audit of COMPAS' Recidivism Predictor](#)

Spring 2024

- Evaluated a recidivism prediction model's fairness using algorithmic metrics, such as calibration, statistical parity
- Proved the model's performance varied significantly across demographics, highlighting the complexity of achieving algorithmic fairness in high-stakes applications like criminal risk prediction