

John Speaks

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EDUCATION

University of Illinois Urbana-Champaign

Bachelor of Science in Computer Science and Linguistics (Statistics Minor)

08/2022 - 05/2025

GPA: 4.0/4.0

WORK EXPERIENCE

Common Crawl Corpus Research

Undergraduate Researcher

Champaign, IL

09/2024 - Present

- Working with Professor Jonathan Dunn in Python to optimize and develop a pipeline to generate a high-quality global language corpus based on web-crawl data.
- Using Natural Language Processing and linguistic approaches to filter and manipulate extensive corpus data.

CyberGIS Research Center

Software Developer and Undergraduate Researcher

Champaign, IL

01/2023 - Present

- Programming in Python to create Jupyter Notebook interfaces that allow non-technical geographers to use high-performance computing (HPC) clusters.
- Creating open-source documentation for the lab's CyberGISX software used for geographic computation locally and for the API which allows users to connect to university supercomputers.

Phillips 66

Cloud Innovation Intern

Houston, TX

05/2024 - 08/2024

- Consolidated and updated 23 standard Terraform modules for cloud deployment on AWS and Microsoft Azure to match company standards and cut time spent using templates in development.
- Created a testing pipeline on Azure DevOps that simulates cloud development of my modified Terraform modules.
- Pioneered the first quantum computing project in the company and developed an optimization demonstration using AWS Braket as part of a team.

University of Illinois Housing

Network Technician

Champaign, IL

08/2022 - 05/2024

- Provided customer service and tech support for thousands of residents in ten residence halls, including regular maintenance of computer labs and responding to after-hours calls by email, phone, and in-person visits daily.
- Utilized network management software to remotely monitor and fix issues with printers, servers, and ethernet.

LEADERSHIP

'Jila' - An Educational App for Q'anjob'al Speakers

Backend Tech Lead

Champaign, IL

09/2024 - Present

- Manage the backend team: Vercel, Clerk, and REST API for data management and user auth in the ReactJS app.
- Coordinate with project managers and other teams to create an accessibility tool for local Q'anjob'al speakers.

League of Linguists

President and Undergraduate Representative

Champaign, IL

08/2023 - Present

- Lead and organize club functions with the club executive team and coordinate with school organizations.
- Elected representative to the Linguistics Department Diversity and Inclusion Committee and All-Faculty Council.

PROJECTS

Natural Language Processing and Machine Learning Projects

johnspeaks.com/projects.html

- Evaluating GPT-4 modeled Arabic-English code switching using Python Word2Vec.
- Exploring variation across four languages using reality TV captions and legal documents as a basis for analysis.
- Measuring gender bias on online platforms through the creation of new metrics and embedding space training.
- Linguistic exploration of Pop and Rap music using lexical semantics in 100-dimensional embedding spaces.
- Using K-Means clustering to categorize all six million English Wikipedia articles automatically.
- Inner circle English dialect n-gram classification with logistic regression.

Mobile Application Development

- Crackdown (a productivity app) - Full stack development using Flutter and Google Firestore for IOS and Android.
- The Jar App (viral swear jar app) - Frontend development with ReactJS and backend through Google Firestore.

RELEVANT SKILLS

Technical Skills: Full-stack development, machine learning and natural language processing, authentication, databases, Terraform and cloud deployment, quantum computing with AWS Braket, Git, leadership, and teamwork.

Coding Languages: Python, TypeScript, JavaScript, HCL, Dart, C, C++, Kotlin, Java, Bash, C#