

# John Speaks

Personal Website/Portfolio: [johnspeaks.com](https://johnspeaks.com)

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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 development team: using MongoDB and REST API to communicate with 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](https://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 (virtual 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#