

# BHARGAV KRISHNA THOTA

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LinkedIn | GitHub | Publications | Portfolio

## SUMMARY

Backend Software Engineer with 3+ years of industry experience and a PhD in Computer Science. Experience working on backend services, RESTful APIs, automation workflows, and system observability. Strong foundation in data structures and algorithms, with a product-focused mindset and passion for building scalable backend systems that support user-facing features at scale.

## EDUCATION

**Doctor of Philosophy (Ph.D.)** in Computer Science and Engineering | Southern Illinois University, Carbondale | GPA: 3.78 | Dec 2025

**Master of Science (M.S.)** in Computer Science | University of Illinois, Springfield | GPA: 3.87 | May 2017

**Bachelor of Technology** in Computer Science and Engineering | Jawaharlal Nehru Technological University, India | Apr 2015

## SKILLS

**Programming Languages:** Java, Python

**Backend & Systems:** Application development, RESTful APIs, real-time systems, exposure to distributed systems concepts

**Databases:** SQL, MySQL, Neo4j (NoSQL/graph database)

**Automation:** Bash scripting, CI/CD pipelines (Jenkins)

**Web & Integration:** HTML/CSS, Javascript, JQuery, Socket.io, HTTP APIs

**Version Control:** SVN, Git

## PROFESSIONAL EXPERIENCE

### Software Engineer

Enfusion, Chicago, IL

Sep 2017 – Aug 2020

- Developed and maintained backend services of a portfolio management system used by hedge fund clients, emphasizing data accuracy and system reliability.
- Automated secure data ingestion from external financial systems using SFTP protocols and custom Bash scripts scheduled through Jenkins jobs, reducing manual intervention and improving operational reliability.
- Designed ETL pipelines for cleaning, normalization and aggregation of daily transaction data.
- Optimized MySQL schemas, indexes, and queries to improve query performance.
- Developed backend utilities for end of the day trade reporting using XML parsing and automated report generation.
- Collaborated with product, QA, and cross-functional teams to implement backend enhancements, debug production issues, analyze logs, and improve system stability.

### Assistant System Engineer

Tata Consultancy Services, India

Jun 2015 - Jan 2016

- Developed Java/J2EE backend components using MVC architecture including service and data access objects.
- Assisted in debugging, testing, and maintaining enterprise backend services.

## ACADEMIC EXPERIENCE

### Graduate Research Assistant

Southern Illinois University, Carbondale

Aug 2022 – Dec 2025

- Designed and developed XArgue, a real-time, cross-platform system with backend services supporting authentication, messaging, analytics, and machine-learning inference.
- Built backend services using Java and Neo4j to support graph-based data storage, querying and analysis.
- Implemented real-time messaging functionality using Socket.IO, focusing on reliability and system responsiveness.
- Built RESTful backend APIs for authentication, email verification workflows and ML model inference for application features.
- Deployed backend services behind a reverse proxy to enable secure request routing and controlled access to internal services.
- Used centralized logging and monitoring tools (Grafana, Loki) to observe system behavior, analyze performance issues.
- Supported production operations by creating custom RPM packages, configuring Linux services for service lifecycle management, and implementing automated backup scripts for data reliability.
- Owned backend components end-to-end, from design and implementation to production debugging, iteration and performance tuning.

### Graduate Teaching Assistant

Southern Illinois University, Carbondale

Aug 2020 – Dec 2025

- Instructed CS-200B Computer Concepts course, covering algorithms, AI, computer organization, and programming languages.
- Teaching Assistant for CS-436 Artificial Intelligence, CS-537 Advanced Expert Systems, CS-480 Computational Statistics II.
- Mentored undergraduate and graduate students and supported course operations, emphasizing clear communication and problem-solving.
- Supported infrastructure tooling migration by developing custom bash scripts to ensure system compatibility and reliability.

## PROJECT

### Assessing the Impact of Social Networks on Argumentation

- Developed a mobile application of cyber argumentation with social networking featuring collective opinion analytics.
- Proposed novel quantitative models to quantify the impact of social networks on the formation and evolution of collective opinion and outlier opinions in argumentation.

Skills: Java, Python, Neo4j, Socket.io, Javascript, Numpy, Pandas, Matplotlib, Networkx.

## AWARDS

**Dissertation Research Award**, Fall 2023 and Spring 2024.

**Best Student Paper**, ASONAM 2023, Kusadasi, Turkey.