Kriti Bhattarai

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Summary

- Graduating PhD student with 5 years of professional experience in applied research and software development
- Hands on experience in natural language processing, applied predictive modeling, and automated supply chain
- Currently seeking a full-time opportunity starting December 2024

Education

Washington University in St. Louis **Aug. 2018 – December 2024 (Expected)**
PhD in Computer Science *Saint Louis, Missouri*

Westminster College **Aug. 2012 – Dec 2015**
Bachelors in Computer Science *Fulton, Missouri*

Technical Skills

Programming Languages: Python, SQL, JAVA, R, MATLAB, HTML/CSS, JavaScript, COBOL, C++, STRUTS
Libraries: Pytorch, Tensorflow
Additional Skills: Large language models, machine learning algorithms, data analysis and evaluation, data visualization, project steering and tracking, Electronic Health Records

Research Podium Presentation

- **K. Bhattarai**, I. Y.Oh, J. M. Sierra, P. R.O. Payne, Z. Abrams, A. M. Lai. "Leveraging GPT-4 for Identifying Cancer Phenotypes in Electronic Health Records: A Performance Comparison between GPT-4, GPT-3.5-turbo, Flan-T5 and spaCy's Rule-based & Machine Learning-based methods." *Accepted at AMIA Informatics Summit, 2024.*

Research Posters

- M. Zhao, I. Oh, A. Lewis, **K. Bhattarai**, A. Kernberg, M. Nelson, P. R.O. Payne, A. M. Lai, A. Gupta, Predicting Superimposed Preeclampsia in Women with Chronic Hypertension Using Electronic Health Records Data. *Accepted at AMIA Annual Informatics Summit, 2023*

- **K. Bhattarai**, M. Hofford, S. Yu, S. Kim, A. Gupta, A. M. Lai, P. R.O. Payne, A. Michelson, Evaluation of SOFA score for Outcome Prediction in COVID-19 ICU Patients. *Accepted at AMIA Annual Informatics Summit, 2021*

Research Publication

- **K. Bhattarai**, I. Y.Oh, J. M. Sierra, P. R.O. Payne, Z. Abrams, A. M. Lai.. "Leveraging GPT-4 for Identifying Cancer Phenotypes in Electronic Health Records: A Performance Comparison between GPT-4, GPT-3.5-turbo, Flan-T5 and spaCy's Rule-based & Machine Learning-based methods." *Submitted to JAMIA Open, 2024.* Draft available at: https://www.biorxiv.org/content/10.1101/2023.09.27.559788v2

- **K. Bhattarai**, A.M.Lai."Knowledge Base-Guided Dynamic Prompts for Enhanced Clinical Entity Extraction in Generative Models." *Submitted to ACL BioNLP 2024.*

- **K. Bhattarai**, E. Hillis, I.Y. Oh, Z. B. Abrams P.R.O. Payne, A. M.Lai."Investigating Variability in Large Language Model Outputs for Information Extraction: A case study with GPT." *Target Journal: JAMIA 2024.*

Experience

Graduate Research Assistant **July 2019 – Present**
Washington University in St. Louis *St. Louis, Missouri*

- Innovation, planning and execution of project-level tasks on contextualized information extraction using rule-based and deep learning approaches from clinical unstructured text data.
- Execution of a project on COVID-19 comparing pre-vaccination and post-vaccination patient cohort in a multi-center study across St. Louis area using machine learning methods to evaluate model generalizability using patient Electronic Health Records.

Full-Stack Developer **January 2016 – August 2018**

Dillard's Inc *Little Rock, Arkansas*

- Detailed project knowledge of point-of-sale application, merchandise supply chain application, and order lookup component of Dillards.com implemented in JAVA and GROOVY on an AIX/WebSphere platform, as well as application programs written in COBOL on a z/OS(OS/390) platform for 280 stores across United States.
- Point of contact for the 3rd party integrations including dillards.com and borderfree system during the bi-weekly batch implementation of new programs to assist with nightly on-call support.
- Subject matter expert of the supply chain business to communicate with user services in efficiently and effectively implement user-specific designs.
- Mentor to 2 incoming members of the team helping them improve knowledge and gain expertise on the technical and business side of Dillard's.

Developer Intern **February 2015 – December 2015**

State of Missouri Information Technology Services Division *Jefferson City, Missouri*

- Creating and documenting test scripts using SQL
- Creating ANT Script for build automation for a web-based JAVA Application
- Performing basic quality assurance application testing
- Creating account access and performing regression testing on an internal application

Relevant Coursework

- Large Language Models
- Data Structures
- Bayesian Machine Learning
- Advanced Algorithms
- Natural Language Processing
- Data Visualization
- Data Mining
- Linear Algebra
- Object-Oriented Programming
- System Analysis and Design
- Introduction to AI
- Computer Architecture

Leadership / Services

Washington University in St. Louis

- Volunteer Member| Women in AMIA Networking/Mentoring and Lifecycle Committee 2024-Present
- Volunteer Member| Women in AMIA Pathways Sub-Committee 2024-Present
- Abstract Reviewer | AMIA Informatics Summit and AMIA Annual Symposium 2020-Present
- Events Organization and Facilitation | Women in Computer Science 2020-Present
- Assistant in Instruction | Introduction to Electronic Health Records 2023
- Teaching | Introduction to Data Science 2021
- Student Mentor | Women in Computer Science 2021

Westminster College

- Senior Mentor for Undergraduate Freshman Class 2015
- Junior Class Vice-President for Student Government Association 2014
- Habitat for Humanity Chapter President 2014

Recognition

Google CS Research Mentorship Program Spring 2021