

Menuka Warushavithana

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EDUCATION

Colorado State University

Fort Collins, CO

Ph.D. in Computer Science (On-going), Current GPA: 4.0/4.0

Jan. 2020 – Dec. 2024

- Main areas of study: Distributed Systems, Big Data, Blockchain

University of Moratuwa

Moratuwa, Sri Lanka

B.Sc.Engineering (Hons.) in Computer Science & Engineering, GPA: 3.52/4.2

Nov. 2014 – Dec. 2018

- Main areas of study: Distributed Systems, Database Systems, Machine Learning

EXPERIENCE

Graduate Research Assistant

Summer 2020

Colorado State University

Fort Collins, CO

- Spearheaded the development of a geospatial query service for multiple datasets (including data from U.S. Census Bureau, FEMA, etc.) of over 1 TB in total size
- Query service was implemented to support queries based on geometry and predicate logic
- Created and managed sharded MongoDB clusters spanning 50 nodes
- Developed an interactive web application to visually construct geospatial queries
- Technologies Used:
 - * Backend: Java, Gradle, gRPC, MongoDB
 - * Frontend: Vue.js, Leaflet.js
- Project repositories: <https://github.com/Project-Sustain/sustain-query-service>,
<https://github.com/Project-Sustain/sustain-dataset-explorer>

Graduate Teaching Assistant

Spring 2020 and Fall 2020

Colorado State University

Fort Collins, CO

- Teaching assistant for CS370 Operating Systems (Spring and Fall semesters)
- Conducted recitations and graded assignments for a class of 80+ students (Spring) and 130+ students (Fall)

Software Engineer

Jan. 2019 - Dec. 2019

WSO2

Colombo, Sri Lanka

- Worked as a member of the WSO2 Enterprise Integration Team (Research and Development division)
- Developed a command-line client tool using *Go* for the WSO2 Micro Integrator (which is a cloud-native Enterprise Service Bus)
- Improved the performance of the HTTP Transport Service of WSO2 Enterprise Integrator by roughly 3 times the initial values (using the network application framework *Netty*)

Intern Software Engineer

Jun. 2018 - Dec. 2018

WSO2

Colombo, Sri Lanka

- Developed a command-line tool for importing and exporting APIs (protected with OAuth 2.0) between different WSO2API Manager environments, thereby improved the user experience of WSO2 API Manager
- Technologies used: Go, Java, YAML, HTTP, REST, OAuth 2.0
- Project URL: <http://bit.ly/wso2-apimtooling>
- Contributed to the WSO2 API Manager Core

TECHNICAL SKILLS

Languages: Java, Python, PHP, Go (GoLang), JavaScript, C, HTML5/CSS

Frameworks: JUnit, Mockito, Vue.js, React.js, Laravel, Hadoop MapReduce, Apache Spark

Libraries: gRPC, JAX-RS, Java NIO, Netty, Pandas, Numpy

Databases: MySQL, MongoDB

Developer Tools: Git, Maven, Gradle, Docker

PROJECTS

Routing Packets Within a Structured Peer-to-Peer (P2P) Network Overlay | *Java, Gradle* Spring 2020

- Class assignment for CS455 Introduction to Distributed Systems (at Colorado State University) (<http://bit.ly/cs455-hw1>)
- Constructed a logical overlay over a distributed set of nodes
- Used partial information about nodes within the overlay to route packets

Scalable Server Design | *Java, Java NIO, Gradle* Spring 2020

- Class assignment for CS455 Introduction to Distributed Systems (at Colorado State University) (<http://bit.ly/cs455-hw2>)
- Implemented a thread pool to be used by the server
- Implemented the server with the ability to establish connections with multiple clients (100+) at once
- The server was able to send and receive data through these links
- Additionally, the server was capable of organizing data into batches and improve network performance

Automatic Identification of Legal Arguments | *Java, Python, MySQL* Jan. 2018 - Dec. 2018

- Senior year research at University of Moratuwa
- Developed research methodologies to intelligently identify legal arguments by parsing legal documents
- Created datasets using publicly available transcripts of court cases from the U.S. Supreme Court
- Concepts based on Machine Learning, Natural Language Processing, Information Retrieval, and Computational Linguistics were used
- (Publications related to this project are listed under the PUBLICATIONS section)

PUBLICATIONS

Journal Articles

- Ratnayaka, G., Rupasinghe, T., de Silva, N., Warushavithana, M., Gamage, V. S., Perera, M., & Perera, A. S. (2019). Classifying Sentences in Court Case Transcripts using Discourse and Argumentative Properties. *ICTer*, 12(1).

Conference Proceedings

- Gamage, V., Warushavithana, M., de Silva, N., Perera, A. S., Ratnayaka, G., & Rupasinghe, T. (2018).. “Fast Approach to Build an Automatic Sentiment Annotator for Legal Domain using Transfer Learning”. In : 9th Workshop on Computational Approaches to Subjectivity, Sentiment & Social Media Analysis, held in conjunction with EMNLP 2018 Conference.
- Ratnayaka, G., Rupasinghe, T., de Silva, N., Gamage, V. S., Warushavithana, M., & Perera, A. S. (2019). “Shift-of-Perspective Identification with in Legal Cases”. In: Proceedings of the 3rd Workshop on Automated Semantic Analysis of Information in Legal Texts (ASAIL 2019).