

Menuka Warushavithana

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EDUCATION

Ph.D. in Computer Science (On-going) <i>Colorado State University, Current GPA: 4.0/4.0</i>	Jan. 2020 – Dec. 2024 <i>Fort Collins, CO, USA</i>
MS in Computer Science <i>Colorado State University, GPA: 4.0/4.0</i> <ul style="list-style-type: none">Main areas of study: Distributed Systems, Big Data, Blockchain, Machine Learning	Jan. 2020 – Dec. 2021 <i>Fort Collins, CO, USA</i>
B.Sc.Engineering (Hons.) in Computer Science & Engineering <i>University of Moratuwa, GPA: 3.52/4.2</i>	Nov. 2014 – Dec. 2018 <i>Moratuwa, Sri Lanka</i>

TECHNICAL SKILLS

Languages: Java, C++, Python, PHP, Go (GoLang), JavaScript, C, HTML5/CSS
Frameworks: Hadoop MapReduce, Apache Spark, JUnit, Mockito, Vue.js, React.js, Laravel
Libraries: gRPC, JAX-RS, Java NIO, Netty, Pandas, Numpy
Databases: MySQL, MongoDB
Developer Tools: Git, Maven, Gradle, Docker

SOFTWARE ENGINEERING EXPERIENCE

Software Engineering Intern <i>Google</i>	May 2022 - Aug. 2022 <i>New York, NY, USA</i>
<ul style="list-style-type: none">Worked as a member of the Google Consensus Team (Distributed Locking and Leader Election)Inspected the Google codebase for unsafe patterns of distributed lockingIdentified over 10 instances of potentially unsafe behavior that could lead to "split-brain" conditions and outages in the codebaseImplemented tools to automatically identify potentially unsafe usages of APIs used for distributed leader electionTechnologies used: C++ (destructors, RAII, move semantics, smart pointers)	
Software Engineer <i>WSO2</i>	Jan. 2019 - Jan. 2020 <i>Colombo, Sri Lanka</i>
<ul style="list-style-type: none">Worked as a member of the WSO2 Enterprise Integration Team (Research and Development division)Developed a command-line client tool using <i>Go</i> 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 <i>Netty</i>)	
Software Engineering Intern <i>WSO2</i>	Jun. 2017 - Dec. 2017 <i>Colombo, Sri Lanka</i>
<ul style="list-style-type: none">Developed a command-line tool for migrating APIs (protected with OAuth 2.0) between different WSO2 API Manager environments, thereby improved the user experience of WSO2 API ManagerTechnologies used: Go, Java, YAML, HTTP, REST, OAuth 2.0Project URL: http://bit.ly/wso2-apimtoolingContributed to the WSO2 API Manager Core	

RESEARCH EXPERIENCE

Graduate Research Assistant <i>Colorado State University</i>	Jan 2021 - May 2022 <i>Fort Collins, CO, USA</i>
<ul style="list-style-type: none">Conducted research on containerizing machine learning workloads using Docker and KubernetesImplemented Machine Learning tasks using Apache Spark and Scikit-LearnUtilized Kubernetes and Docker for workload orchestration	

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 included in the PUBLICATIONS section)

PUBLICATIONS

- **Warushavithana, M.**, Mitra, S., Arabi, Mazdak., et al. (2021) Containerization of Model Fitting Workloads over Spatial Datasets. The 6th IEEE International Workshop on Big Spatial Data in conjunction with the 2021 IEEE International Conference on Big Data.
- **Warushavithana, M.** Carlson, C., Mitra, S., et al. (2021). Distributed Orchestration of Regression Models over Administrative Boundaries. IEEE/ACM 7th International Conference on Big Data Computing, Applications and Technologies (BDCAT '21).
- 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).
- Ratnayaka, G., Rupasinghe, T., de Silva, N., **Warushavithana, M.**, Gamage, V. and Perera, A.S., (2018), September. Identifying relationships among sentences in court case transcripts using discourse relations. In 2018 18th International Conference on Advances in ICT for Emerging Regions (ICTer) (pp. 13-20). IEEE.
- 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).