

Bhanuka Mahanama

Ph.D Student, Old Dominion University, Norfolk, VA

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mahanama94

A self-driven, and detail-oriented Ph.D. student with experience in Eye-tracking, Computer Vision, Machine Learning, and Information Retrieval looking for **summer internships (2022)** in Research and Development, or Software Development Engineering.

EXPERIENCE

Old Dominion University

Norfolk, VA

Graduate Research/Teaching Assistant

Aug 2019 - Present

- Research on multi-user eye-tracking, multi-sensory information retrieval for human-computer interaction, and behavioral analysis.
- Research on scalable appearance-based gaze/eye tracking in the wild.
- Conducted sessions on Python, Embedded programming, and Data science for Student ThinSat Summer Camp.
- Performed teaching assistant duties for Data structures and algorithms, Discrete structures, and Cryptography for computer security.

Los Alamos National Laboratory

Los Alamos, NM

Summer Research Intern

May 2021 - Aug 2021

- Designed and developed a toolset for the Memento Protocol (IET RFC 7089) compliance testing and reporting.
- Implemented improvements to enable toolset and service accessibility to public and private web archives.

University of Moratuwa

Moratuwa, Sri Lanka

Junior Consultant

Jan 2019 - Aug 2019

- Planned, coordinated, conducted and evaluated Computer Networks, Software Engineering, Industrial Computer Engineering, and Image processing practical sessions for undergraduates.
- Mentored and supervised undergraduate software engineering and final year research and development projects.

Visiting Instructor

Aug 2018 - Dec 2018

- Conducted and evaluated practical sessions for Computer Networks, and Industrial Computer Engineering.

Global Wavenet (Pvt) Ltd

Colombo, Sri Lanka

Associate Software Engineer

Jan 2018 - Aug 2018

- Designed, developed and optimized databases for high throughput applications using MySQL cluster.
- Developed plugins and plugin support for data warehousing and data analytics for existing telecommunication products.

Trainee Software Engineer

Jun 2017 - Dec 2017

- Developed high available and throughput applications using Erlang, Mnesia and MySQL cluster for telecommunication service providers.
- Developed plugins for company product integrations and end-user applications.

PUBLICATIONS

- **Bhanuka Mahanama**, Gavindya Jayawardena, and Sampath Jayarathna. 2021. Analyzing Unconstrained Reading Patterns of Digital Documents Using Eye Tracking. Proceedings of the 21st ACM/IEEE-CS Joint Conference on Digital Libraries, 2021. **[Best Poster]**
- **Bhanuka Mahanama**, Yasith Jayawardana, and Sampath Jayarathna. Gaze-Net: appearance-based gaze estimation using capsule networks. In Proceedings of the 11th ACM Augmented Human Conference, 2020 (AH '20).

EDUCATION

Ph.D. in Computer Science

Old Dominion University, Norfolk, VA

2019 - 2023(Expected)

GPA: 4.0/ 4.0

Machine Learning, Data Science, Computer Architecture

B.Sc. in Engineering

University of Moratuwa, Moratuwa, Sri Lanka

2014 - 2018

GPA: 3.83/ 4.2

Machine Vision, Computer Networks, Embedded Systems

Advanced Diploma in Accounting

CIMA, UK

2011 - 2013

ACHIEVEMENTS

- First Class Honors
- Guru Edutainment Project of the Year (2016)

SKILLS AND INTERESTS

Python Java JavaScript C++ Erlang PHP
MATLAB Verilog MySQL MongoDB SQLite
Redis Derby Neo4J Tensorflow Keras
SciKit NumPy Pandas Flutter Angular
Ionic NodeJS Spring Arduino Raspberry Pi
RealSense Eye-tracking Machine Learning
Neural Networks Computer Vision
Information Retrieval

PROJECTS

Multi-User Eye Tracking

- Researching and Developing systems, algorithms and software for multi-user eye tracking for analytics in immersive environments.

<https://mgaze.nirds.cs.odu.edu/>

Python, JavaScript, OpenCV, Tensorflow, TensorflowJs

Memento Validator

- Designed and developed a new toolset for testing the Memento standard (IET RFC 7089) compliance of resources capable of testing through multiple interfaces.

<http://labs.mementoweb.org/validator/>

Python, Memento Protocol

Link Parse

- Implemented a library for Memento link header parsing combining popular algorithms.

<https://github.com/lanl/link-parse>

Python, Memento Protocol

MySQL Monitor

- Designed and developed a tool for monitoring MySQL (NDB Cluster) for issues, errors and overloading and notifying users through subscribed services such as SNMP.

<https://mahanama94.github.io/projects/mysqlmon>

MySQL, NDB Cluster, Erlang, SNMP