

# DANUSHKA MENIKKUMBURA

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## EDUCATION

**Purdue University**, West Lafayette, IN Expected May 2021  
Ph.D. in Computer Science

**University of Moratuwa**, Sri Lanka Aug 2003  
B.Sc. in Computer Science & Engineering  
GPA: 3.86/4.00  
Rank: 15 of 48

## SKILLS

**Programming (over 1000 lines of code)**  
C, C++, Java, Python, Linux kernel development, DPDK, SOA, P4

## TEACHING

**Graduate Teaching Assistant** Fall 2014 – Fall 2016

- Designed and implemented course projects including sample solutions, handouts, and automated grading schemes for a highly competitive course that usually has the highest student enrollment (~600)
- Graded exams, held weekly office hours and lab sessions, actively provided help on online student portals
- Conducted regular meetings with head professor, course coordinator, and other TAs

## MISCELLANEOUS

### Apache Axis2

Project Management Committee member and long-time committer for Apache Axis2 open source Web services framework project

### Apache Airavata

Long-time contributor and committer for Apache Airavata science gateway project, which is led by the Science Gateway Research Group at Indiana University, USA

### Google Summer of Code

Successfully completed a GSoC project in 2013. The requirement was to have support for Advanced Message Queuing Protocol (AMQP) in the notification manager of Apache Airavata

## REFERENCES

### Tom Edsall

Emeritus Advisor/Fellow & Former CTO at Cisco  
edsall@cisco.com  
(I collaborate with Tom on the project RoCC)

### Prof. Patrick Eugster

Department of Computer Science  
Purdue University  
p@cs.purdue.edu  
(Prof. Patrick is my advisor)

## EXPERIENCE

**Cisco Systems**, San Jose, CA May 2017 – Dec 2017

Software Engineering Intern

- Worked on the Cisco network assurance engine product (Candid)
- Implemented APIs to collect required data from VMware vCenter and Citrix NetScaler load balancer
- Honored to receive an award recognizing my contribution to the project during the internship

**Millennium Information Technologies**, Sri Lanka Jul 2011 – Jul 2014

Technical Lead

- Collaborated with the product Architect designing the overall architecture of a stock market data dissemination system
- The product is currently used in leading stock markets including London Stock Exchange and Milan Stock Exchange
- Contributed from the product inception to go-live playing different roles including development lead

**WSO2 Inc.**, Sri Lanka

Sep 2007 – Jun 2011

Senior Technical Lead

- Designed and implemented a Ruby binding for Apache Axis2 Web services framework
- Designed and developed a message broker that supports different messaging protocols including JMS, SOAP, AMQP, etc
- Technical product manager for two SOA frameworks developed using C++ and Java

**Millennium Information Technologies**, Sri Lanka Aug 2003 – Aug 2007

Senior Software Engineer

- Development lead for a mediation engine developed to process international telecommunication traffic going through Sri Lanka Telecom, the largest fixed-line telecommunication operator in Sri Lanka

## RESEARCH

### Projects

- Congestion control for RDMA (in collaboration with Cisco)
- Preventing head-of-line blocking in datacenter networks
- Programmable network buffer management

### Publications

*RoCC: Robust Congestion Control for RDMA*: Parvin Taheri\*, Danushka Menikkumbura\*, Erico Vanini, Sonia Fahmy, Patrick Eugster, and Tom Edsall [CoNEXT '20]

*Towards Software-Defined Buffer Management*: Kirill Kogan, Danushka Menikkumbura, Gustavo Petri, Youngtae Noh, Sergey Nikolenko, Alexander Sirotkin, and Patrick Eugster [IEEE/ACM Transactions on Networking 28, no. 5 (2020)]

*A Programmable Buffer Management Platform*: Kirill Kogan, Danushka Menikkumbura, Gustavo Petri, Yangtae Noh, Sergey Nikolenko, Alexander Sirotkin, and Patrick Eugster [ICNP'17]

\* authors contributed equally