

Neal Charbonneau

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EDUCATION **University of Massachusetts, Dartmouth**, Dartmouth, MA
M.S., Computer Science, May 2010 (expected)
Cumulative GPA: 4.0/4.0
B.S., Computer Science, May 2008
Graduated Summa Cum Laude, Chancellors List all semesters
GPA: 4.0/4.0

EXPERIENCE **UMass Dartmouth, Advanced Computer Networks Lab** Dartmouth, MA
Research Assistant **June 2008 - Present**
Advisor: Dr. Vinod M. Vokkarane
Projects focus on routing and wavelength assignment for optical circuit-switched networks and reliability for optical burst-switched networks. Projects involve: extensive use of network simulators such as ns2, performance modeling, algorithm design and analysis.

UMass Dartmouth, Computer Science Department Dartmouth, MA
Teaching Assistant **Spring 2008, Fall 2008/2009**
TA for an introductory C programming class, a sophomore level software analysis and design class, and a graduate level computer networks course. Main responsibilities were conducting labs, helping students with assignments, and grading.

UMass Dartmouth Dartmouth, MA
Project Lead **Fall 2007-Spring 2008**
Led a four student group for year long senior capstone project. Worked with our customer, the Naval Undersea Warfare Center, to develop data entry and analysis applications. Work went from requirements engineering to completed and tested product.

Augur Enterprises, Inc. Foxboro, MA
Software Developer **2007**
Worked on client/server application used by clinical institutions. Introduced new features for generating reports, updates over the network, and reduced memory usage of server as well as performing maintenance. Maintained web/application server and developed website.

UMass Dartmouth Dartmouth, MA
Webmaster **2006-2007**
Developed website and animations for NSF project *Teaching Computer Networks Through Simulation, Experiments, and Animation Library (Net-SEAL)*. The goal is to help students understand networking concepts through animations. Along with the website and animations created a simple content management system to add and remove new animations and content. <http://www.net-seal.net>

PUBLICATIONS B. Komatireddy, N. Charbonneau, and V.M. Vokkarane, "Source-Ordering for Improved TCP Performance over Load-Balanced Optical Burst-Switched (OBS) Networks", *Springer Photonic Network Communications*, July 2009.

N. Charbonneau and V. M. Vokkarane, "Tabu Search Meta-Heuristic for Static Multicast Routing and Wavelength Assignment over Wavelength-Routed Optical WDM Networks," *to appear, Proceedings, IEEE ICC 2010*, Cape Town, South Africa, May, 2010.

R.R.C. Bikram, N. Charbonneau, and V.M. Vokkarane, "Coordinated Multi-Layer Loss Recovery in TCP over Optical Burst-Switched (OBS) Networks," *to appear, Proceedings, IEEE ICC 2010*, Cape Town, South Africa, May, 2010.

N. Charbonneau and V.M. Vokkarane, "Static Multicast Routing and Wavelength Assignment over Wavelength-Routed Optical WDM Networks," *to appear, Third IEEE International Conference on Advance Networks and Telecommunication Systems (ANTS)*, IIT Delhi, India, Dec. 14-16, 2009.

N. Charbonneau, V.M. Vokkarane, and R. Balasubramanian, "MASCOT: Multicast Architecture for Service-Oriented Tactical Applications," *Proceedings, IEEE International Conference on Technologies for Homeland Security*, Waltham, MA, May 11-12, 2009.

D. Chandran, N. Charbonneau, and V.M. Vokkarane, "Proactive Loss Recovery using Forward Segment Redundancy in Optical Burst-Switched (OBS) Networks," *Proceedings, Second IEEE International Conference on Advanced Networks and Telecommunication Systems (ANTS)*, IIT Bombay, India, Dec 15 -17, 2008.

PAPERS UNDER
REVIEW

N. Charbonneau and V.M. Vokkarane, "Multicast Advance Reservation in All-Optical Wavelength-Routed WDM Networks," *submitted to IEEE Globecom*.

N. Charbonneau and V.M. Vokkarane, "Performance Modeling of HS-RR-TCP Over Load-Balanced Optical Burst-Switched (OBS) Networks," *submitted to Optical Switching and Networking*.

N. Charbonneau and V.M. Vokkarane, "Routing and Wavelength Assignment of Static Multicast Demands" *submitted to Journal of Optical Communications and Networking*.

N. Charbonneau, D. Chandran, and V. M. Vokkarane, "Improving TCP Performance over Optical Burst-Switched Networks Using Forward Segment Redundancy" *submitted to Journal of Optical Communications and Networking*.

PAPERS IN
PREPARATION

N. Charbonneau and V.M. Vokkarane, "Static Routing and Wavelength Assignment for Multicast Advance Reservation in All-Optical Wavelength-Routed WDM Networks"

SKILLS

- Platforms: Linux, OS X, Windows
- Languages: C, Java, Python, PHP, Bash scripting. Familiarity with: C++, Tcl, MySQL
- Tools: Subversion, Apache Ant, make, Google Web Toolkit, Rational Rose, ns2, L^AT_EX, gnuplot

AWARDS

Computer Science Faculty Award, 2008
Highest GPA, College of Engineering, 2008

PROFESSIONAL
MEMBERSHIPS

IEEE Student Member, Since 2008