

Neal Charbonneau

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EDUCATION **University of Massachusetts, Dartmouth**, Dartmouth, MA
M.S., Computer Science, September 2010 (expected)
Cumulative GPA: 4.0/4.0
Focus on computer networks
B.S., Computer Science, May 2008
Graduated summa cum laude, Chancellors List all semesters
GPA: 4.0/4.0

SKILLS

- Platforms: Linux, OS X
- Languages: C, C++, Java, Python. Familiarity with: BASH scripting, Tcl, MySQL, PHP
- Tools: Subversion, Apache Ant, make, Rational Rose, ns2, L^AT_EX, gnuplot
- Internet Technology: HTML, CSS, XML

EXPERIENCE **UMass Dartmouth, Advanced Computer Networks Lab** Dartmouth, MA
Research Assistant **June 2008 - Present**
Advisor: Dr. Vinod M. Vokkarane
Projects focus on optical circuit-switched and burst-switched networks. Projects involve extensive use of network simulators such as ns2, performance modeling, and 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. Ran labs and provided extra help to students.

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. In addition to performing maintenance, introduced new features for generating reports, updates over the network, and reduced memory usage of server. 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)*. Along with the website and animations created a simple content management system to add and remove new animations and content.

PUBLICATIONS Rajesh R.C. Bikram, Neal Charbonneau and Vinod M. Vokkarane, "Multi-Layer Loss Recovery in TCP over Optical Burst-Switched (OBS) Networks," accepted, *Springer Photonic Network Communications*, July 2010.

N. Charbonneau and V. M. Vokkarane, "Routing and Wavelength Assignment of Static Multicast Demands over All-Optical Wavelength-Routed WDM Networks," *IEEE/OSA Journal of Optical Communications and Networking*, vol. 2, no. 7, pp. 427-440, July 2010

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, "Multicast Advance Reservation RWA Heuristics in Wavelength-Routed Networks," to appear, *Proceedings, IEEE Globecom 2010*, Miami, FL, Dec. 2010

J. Sullivan, N. Charbonneau, and V.M. Vokkarane, "Performance Evaluation of TCP over Optical Burst Switched (OBS) Networks using Coordinated Burst Cloning and Forward-Segment Redundancy," to appear, *Proceedings, IEEE Globecom 2010*, Miami, FL, Dec. 2010

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

N. Charbonneau and V. M. Vokkarane, "Tabu Search Meta-Heuristic for Static Multicast Routing and Wavelength Assignment over Wavelength-Routed Optical WDM Networks," *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," *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, "Dynamic Non-Continuous Advance Reservation over Wavelength-Routed Networks", *submitted to IEEE Infocom*

PAPERS IN
PREPARATION

N. Charbonneau and V.M. Vokkarane, "A Survey of Advance Reservation Routing and Wavelength Assignment in Wavelength-Routed WDM Networks"

AWARDS

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

PROFESSIONAL
MEMBERSHIPS

IEEE Student Member, Since 2008