Narine Manukyan

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EDUCATION

Candidate for Ph.D. in Computer Science **2011 - 2014**
University of Vermont, Burlington, Vermont
Cumulative GPA: 3.97/4.00

M.Sc. in Computer Science **2009 - 2011**
University of Vermont, Burlington, Vermont
Cumulative GPA: 3.95/4.00

Certificate of Graduate Study in Complex Systems **2009 - 2011**
University of Vermont, Burlington, Vermont
Cumulative GPA: 4.00/4.00

Candidate for M.Sc. in IT Management (8/14 courses) **2008 - 2009**
Yerevan State University, Yerevan, Armenia
Cumulative GPA: 4.89/5.00

Bachelor of Applied Mathematics and Informatics **2004 - 2008**
Yerevan State University, Yerevan, Armenia
Cumulative GPA: 5.00/5.00

TECHNICAL SKILLS

- Machine Learning
- Data Mining (Big Data)
- Modeling Complex Systems
- Association Analysis
- Matlab/Mathematica/R
- Python/Ruby on Rails
- Cloud Computing
- Crowd Sourcing (MTurk)
- Java/Android Development(some)
- Objective C/iPhone Development
- C for embedded devices
- Assembly Language (Intel 8080)
- MySQL/Oracle DB
- HTML/CSS/JS
- AJAX/JSON/XML
- LaTex (scientific writing)

EXPERIENCE

Graduate Research Assistant **2010 - present**
University of Vermont, Computer Science
Advisor: Margaret J. Eppstein, Ph.D. (Department Chair)

- ◇ National Institute of Health Grant: Big data analysis and data driven modeling of hospital collaborations. Proposed a new search strategy for healthcare improvement in complex clinical environments (see publications [1][3][6]).
- ◇ Transportation Grant: Proposed a data driven hierarchical visualization of self organizing maps to find clusters in high dimensional data. Applied this and other machine learning techniques to study vehicle market in Vermont (DMV, cars.com) and landscape contamination in Schuyler Falls (see [2][4]).

Skills Utilized: MATLAB, MySQL, Ruby, Python, JSON, JS, HTML, LaTex

WolframAlpha **2008 - 2009**
Developer, Wolfram Research, Champaign, IL

- ◇ Applied artificial neural networks to recognize words from incomplete user inputs in 130 languages. Assigned WolframAlpha suggestions/bugs to appropriate developers or directly implemented them. Participated in strategic meetings.

Skills Utilized: WebMathematica, Java, JSP, SQL, JS, AJAX, XML, JSON, HTML

Wolfram Research (*Mathematica*) **2007 - 2008**
Web Research and Development, Champlaign, IL **Summers**

- ◇ Developed a web interface for IntegerBase project in special projects group.

Skills Utilized: Mathematica, Java, JSP, MySQL, JS, HTML, UNIX

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EXPERIENCE (CONTINUED)

Graduate Teaching Assistant **2009 - 2010**
University of Vermont, Computer Science

Lycos-Europe, Quality Assurance Engineer **2007 - 2008**
Aleck Manoogian 9, Yerevan, Armenia

Team Lead and Web Developer **2005 - 2007**
Yerevan State University, Yerevan, Armenia

Research Assistant **2005 - 2009**
Institute of Mechanics, National Academy of Armenia

LEADERSHIP ROLES

- Co-founder and CTO of BlinkSecure Inc. **2012 - present**
- President of Upsilon Pi Epsilon UVM chapter **2013 - present**
- Co-VP of Education at PMI (Project Management Institute) **2012 - present**
- Treasurer, Graduate Student Senate, UVM **2012 - 2013**
- Director of Programs, Graduate Student Senate, UVM **2011 - 2012**
- Senator of CS department, Graduate Student Senate, UVM **Spring 2011**
- Best Student of the Year Award, Yerevan State University **Spring 2008**
- President of Student Senate, Yerevan State University **2007 - 2008**

INTELLECTUAL PROPERTY

Manukyan, N. Wireless Proximity Security with Dynamic Authentication, US Provisional Patent. Granted April 2013.

PUBLICATIONS (SELECTED)

Journal Publications *(click to view).*

1. Manukyan N., Eppstein J.M., Horbar D.J., "Team Learning for Healthcare Quality Improvement", *IEEE Access*, September 2013.

2. Manukyan N., Eppstein J.M., Rizzo M.D., "Improved Cluster Identification and Visualization Using Self-Organizing Maps", *IEEE Transactions on Neural Networks*, June 2012.

Conference Publications and Invited Talks

3. Manukyan N., Eppstein J.M., Horbar D.J., "Team Structure and Quality Improvement in Collaborative Environments", Proceedings of Collaborative Technologies and Systems (CTS), *2013 IEEE International Conference*, San Diego CA, 2013.

4. Manukyan N., Eppstein J.M., Rizzo M.D., "Improved Cluster Identification and Visualization Using Self-Organizing Maps", Proceedings of American Geophysical Union, *AGU Fall Meeting*, San Francisco CA, 2011.

5. Eppstein J.M., Rizzo M.D., Lee H.Y.L., Krupa S.J., Manukyan N., "National Survey Respondents as Agents in a Model of Plug-In Hybrid Electric Vehicle Adoption", In Press, 2013.

6. Manukyan, N., Eppstein, M.J., Horbar, J.D., Leahy, K.A., Kenny, M.J., Mukherjee, S., and Rizzo, D.M., "Evolutionary Mining for Multivariate Associations in Large Time-Varying Datasets: a Healthcare Network Application", Proceedings of the Genetic and Evolutionary Computation Conference (*GECCO*), Philadelphia PA, 2012.

7. Manukyan N., Research About 2-color, 3-dimension Mobile Automata, *AAAI Complex Adaptive Systems* Conference Proceedings, Washington DC, 2011.

OPEN SOURCE CONTRIBUTIONS

MathWorks (*MATLAB*) 

- Cluster Reinforcement Phase ***(click to view).***
- Association Analysis ***(click to view).***

LANGUAGES

English (fluent), Russian (fluent), Armenian (fluent).