

# Nathaniel Soares

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**George Washington University, Washington, DC**  
B.S. in Computer Science & Economics

Graduated in May 2011  
GPA 4.00 in major, 3.93 overall

## Professional Experience

**Microsoft** *Software Development Engineer, Office UEX* *September 2011 - Present*

- Owner of high contrast, low color, & high dpi modes.
- Owner of status bar, message bar, bitmaps, icons, & assorted ribbon visuals.
- Manager of everything from positioning to rendering in areas of ownership.
- Took the initiative to clean and streamline the aging automated testing system.

**NIST** *Research Associate* *May 2010 - May 2011*

- Automated the upgrading of building designs to higher energy standards. Material and system prices do not scale linearly. Finding the optimal configuration is an NP hard problem. Heuristics were used.
- Integrated pricing data from RSMMeans and ASHRAE databases. Much of the integration was not possible until runtime, as local air pressure and temperature are necessary for unit conversions.
- Wrote tools to analyze the economic, environmental, and social differences between energy standards. Configuration of interest rate, climate zone, pricing data, and building design resulted in millions of combinations. Results were presented in real time.
- Created a web interface to allow architects and state legislatures to access these tools.

**National Defense University, Department of Defense** *Contractor* *April 2008 - April 2009*

- Wrote tools to automate the DIACAP on NDU servers. The tools detect and run hundreds of tests required by the DIACAP and automatically create documents for open issues. This process is used to ensure the security of new NDU servers.
- Created general-purpose conflict simulator for use in NDU classrooms. Teachers may specify characters, dialog, and objectives to create custom conflict simulators used to train students in varying scenarios.
- Designed application to facilitate communication between NDU teachers and deployed troops. Application consisted of a web interface integrating many pre-existing NDU tools.

## Personal Experience

**Computer Programming Teacher** Spring 2007

- Provided C/C++ class to 12 students at a high school which did not offer computer science courses.
- Worked with school and state to accredit class.
- Received commendation from Vermont state senate.

**Entrepreneur's Club** *President* 2010 - 2011

**Green Primer** (Academic) *Node.js, HTML Canvas* 2010

- Tool for architects with real-time layout analysis and energy-saving annotations
- Fluid dynamic simulator assesses ventilation and head flow
- Suggests most cost-effective building materials within budget

**Myelin** *javascript DOM syncing tool, see [soares.github.com/myelin](https://github.com/soares/myelin)* 2011

**NateSoares.com** *Made with Django & PostgreSQL* 2009

**Open source contributions** *Bug fixes and minor features for Django & jQueryUI*

**Pascal compiler** (Academic) *C and MIPS* 2009

**File system annotations** (Academic) *Linux kernel module, C* 2008

**CPU design** (Academic) *Verilog* 2009

Course registration software (Academic) <i>PHP and MySQL</i>	2009
Maze / adventure game (Academic) <i>C# with XNA</i>	2008
Association for Computing Machinists	2007 - Present
<ul style="list-style-type: none"> <li>Collegiate Cyber Defense Competition, placed 2<sup>nd</sup> in Mid-Atlantic twice</li> <li>International Collegiate Programming Competition, three years</li> </ul>	
F.I.R.S.T. Robotics team 885	2003 - Present
<ul style="list-style-type: none"> <li>Team Coach - Lead the drive team during matches</li> <li>Lead Engineer - Lead the design and construction of the robot</li> <li>Mentor - Train and assist current team members</li> </ul>	2004 - 2007 2006 - 2007 2008 - 2012
Computer Science Tutor <i>George Washington University</i>	2008 - 2011

## Awards and Honors

GWU Distinguished Scholar ( <i>top 2% of engineering school</i> )	2010
AXA Achievement Scholarship ( <i>\$10,000, 52 people/year nation-wide</i> )	2007
GWU Research and Instructional Technology Committee ( <i>Student representative</i> )	2008
TBII Honorary Engineering Society	2008-
Dean's Honors List of Distinguished Students	2007-2011
National Honors Society	2006-

## Technical Skills

Experienced	C, Java, Python, Javascript
Comfortable	C++, Haskell, PHP, Clojure, Perl, Ruby, Scheme, Coffeescript, Assembler (RISC)
Acquainted	Verilog, Visual Basic, Assembler (x86)
Tools & Skills	PostgreSQL, MySQL, (X)HTML, CSS, Django, JQuery, Node.js, Matlab, Flash, OpenGL
Platforms	Linux (Debian, Fedora, Arch), Windows (XP, 7, Server, 8), Mac (OSX)

## References

Dr. Joshua Kneifel <i>Economist, Engineering Laboratory, NIST</i>	(301) 975-6857
Dr. Michael Piller <i>Director of Academic Computing and Laboratories, NDU</i>	mike@michaelpiller.com
Dr. Bhagirath Narahari <i>Associate Dean for Undergraduate Affairs, GWU</i>	(202) 994-3326
Jim Wick <i>Mentor, FIRST Robotics team 885</i>	(802) 889-3524