

# David S. Carlson

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(Email preferred)

## EDUCATION

**UMASS Amherst, Amherst MA:** B.S. Computer Science May 2016  
Concentration in Artificial Intelligence 3.31 GPA

Relevant Courses:	Data Science	Primary	Web Experience
<ul style="list-style-type: none"><li>Machine Learning</li><li>Neural Networks</li><li>Modeling &amp; Simulation</li><li>Computer Vision</li></ul>	<ul style="list-style-type: none"><li>Matlab</li><li>Scikit</li><li>Numpy</li><li>Linux</li></ul>	<ul style="list-style-type: none"><li>C#</li><li>Python</li><li>C++</li><li>Java</li></ul>	<ul style="list-style-type: none"><li>HTML/CSS</li><li>Javascript</li><li>MySQL</li><li>Bootstrap</li></ul>

## TECHNICAL SKILLS

### A.I & Graphics Programmer

- Implemented atmospheric scattering of light in a ray tracer
- Created a black-body radiation shader using JOGL/Sunflow — recreated it in ProcessingJS
- Implemented 3D rigid body physics, mesh smoothing and neural networks in MATLAB
- Analyzed web-scraped data using SVM, clustering, neural networks and Kohonen networks

### Tools Programmer

- Developed *Word Snack HD*, a free puzzle game for iOS and Android
- Collaborated with a diverse team of artists and programmers using Git
- Organized the C# backend, from the scoring mechanics to the end screen

### Music Lesson Planner

- Helped design and test MusicLessonPlanner, a website for music mentors
- Learned how to organize and test large projects using Node and end-to-end testing
- <https://github.com/mzenzie/320MusicLessonPlanner>

## WORK EXPERIENCE

QA Consultant, *Boston, MA* Jan. — Aug. 2017

- Helped develop a Continuous Delivery project for migrating and testing Pega projects
- Earned CSA and CSSA certifications in PegaSystems business process management software

iD Tech Programming Academy Instructor, *Stanford University, CA* June — Aug. 2015/2016

- Taught High School age students *C++ Game Programming* and *iPhone Development*
- Developed course materials, coding challenges and samples (e.g. A tile editor for a game)

Graphics Programming Grader, *Amherst, MA* Jan. — May 2016

- Mentored students taking *Intro to Graphics*, graded assignments, code and tests
- Earned a *Citation of Excellence* for this course prior to becoming a grader