




**Ellis L. Brown II***Curriculum Vitae***CONTACT  
INFORMATION**

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**RESEARCH  
INTERESTS**

Deep Learning • Artificial Intelligence • Computer Vision • Machine Learning  
Cognitive Science • Neuroscience • Brain-Computer Interfaces

**EDUCATION**

**Vanderbilt University**, Nashville, TN  
*Osage Nation Higher Education Scholarship*  
*Bachelor of Science*, Computer Science  
*Bachelor of Arts*, Mathematics

Aug 2013 – **May 2017**




CS GPA: 3.6/4.0

**RESEARCH  
EXPERIENCE**

*Research Assistant* Jan 2017–present  
**Artificial Intelligence and Visual Analogical Systems Lab**, Vanderbilt University  
School of Engineering – Nashville, TN

- Researcher under direction of Dr. Maithilee Kunda on ONR funded project aiming to understand mechanisms human brain uses to solve spatiotemporal visual search tasks.
- Lead author on paper submitted for review to **AAAI-18 Conference** Sep 2017
- Gave oral presentation at **AISES National Conference** Sep 2017
- Working alongside two graduate students to create a novel image classification dataset to be used in training deep neural networks.

**OPEN SOURCE  
CONTRIBUTIONS**

**SSD.PyTorch** [GitHub:// amdegroot/ssd.pytorch](https://github.com/amdegroot/ssd.pytorch)  22  339  102 Mar 2017–present  
PyTorch Implementation of Single Shot MultiBox Detector

- Worked with fellow student Max de Groot to implement and maintain a PyTorch version of the unified framework for real-time object detection using a single network outlined in Liu et al. 2016, "SSD: Single Shot Multibox Detector" [arXiv:1512.02325v5]
- Made the code clear, concise, and as true-to-the-paper as possible with extensive documentation and commenting. Snippets are cited by multiple online textbooks & blogs: [Medium](#) • [L. Santos AI GitBook](#) • [The Incredible PyTorch](#)

**DeepGenres.Torch** [GitHub:// amdegroot/deepgenres.torch](https://github.com/amdegroot/deepgenres.torch) May 2017  
Deep convolutional neural network for audio classification of music genres.

**TEACHING  
EXPERIENCE**

*Teaching Assistant and Grader*, under Dr. Jerry Roth Fall 2015  
**Program Design & Data Structures**, Vanderbilt University School of Engineering – Nashville, TN

- Debugged and assessed weekly programming assignments and exams
- Held weekly office hours for class of 160+ students.

**PUBLICATIONS**

Park, S.\*, **Brown, E. L., II\***, Warford, N.\*, Seiffert, A. E., Kawamura, K., Lappin, J. S., & Kunda, M. (2017, Sept. 11). *A Computational Cognitive Architecture to Model Human Visual Search for Spatiotemporal Targets*. Submitted to AAAI-18.

\*These authors all contributed equally to this research

**Brown, E. L., II**, Seiffert, A. E., Warford, N., Park, S., & Kunda, M. (2017, Sept. 21). *Computational Cognitive Systems to Model Information Salience*. Abstract presented at the American Indian Science and Engineering Society National Conference, Denver, CO.

<b>PROGRAMMING SKILLS</b>	<i>Languages:</i> Python • JavaScript • Java • MATLAB • TypeScript • C++ • Bash • $\LaTeX$ <i>Frameworks:</i> PyTorch • Torch • SKLearn • NLTK • AWS • Angular2 • Node.js • <b>git</b>	
<b>SELECTED COURSEWORK</b>	Machine Learning • Artificial Intelligence • Web-based System Architecture • Big Data Computer Networks • Coding Theory & Cryptography • Number Theory • Algorithms Probability & Statistics • Program Design & Data Structures	
<b>PROFESSIONAL EXPERIENCE</b>	<i>Software Engineer</i> Jul 2017–present <b>BlackRock</b> , Aladdin Product Group, Core Data Team – New York, NY  <i>Software Engineering Intern</i> Summer 2016 <b>BlackRock</b> , Aladdin Product Group – New York, NY <ul style="list-style-type: none"> <li>• <i>Full-Stack Developer</i> – Wrote Angular2 webapp for Cash Reconciliation Rule Management using TypeScript with SpringMVC Java back-end.</li> <li>• <i>Intern Hackathon Winner</i> (Team of 4) – Structuring Unstructured Data at Scale  PDF Parsing, NLTK Named Entity Recognition, SKLearn Decision Tree prediction, Angular2 web interface</li> </ul> <i>Software Engineering Intern</i> Summer 2015 <b>Exegy</b> , Real Time Market Data Solutions – Saint Louis, MO <ul style="list-style-type: none"> <li>• Overhauled Data Entitlements system with Python script to populate SQL db</li> </ul>	
<b>COMMUNITY SERVICE</b>	<i>Volunteer</i> , Manna Project International, Corozal Town, Belize Mar 2016 <ul style="list-style-type: none"> <li>• Constructed a new house for Jacob's Farm, the country's only drug and alcohol rehabilitation farm in a rural village called Patchakan</li> </ul>	
<b>EXTRA-CURRICULAR ACTIVITIES</b>	<i>Tour Guide</i> , Vanderbilt Admissions 2014-16  Elected <i>Captain &amp; President</i> , Vanderbilt Water Polo Club 2014-16 <ul style="list-style-type: none"> <li>• SEC Champions, competed in CWPA National Championship 2014</li> </ul> Elected <i>Social Chairman</i> , Kappa Sigma Fraternity (Kappa Chapter) 2014-16 <ul style="list-style-type: none"> <li>• Managed \$45k semi-annual budget; served on chapter's Executive Council</li> <li>• Selected to represent Kappa Chapter at: <ul style="list-style-type: none"> <li>– Kappa Sigma National Leadership Conference Summer 2014</li> <li>– Vanderbilt Greek Emerging Leaders Program Fall 2014</li> </ul> </li> </ul> USA Water Polo 2010-13 <ul style="list-style-type: none"> <li>• Junior Olympics 2012, 2013</li> <li>• Olympic Development Program 2010-13</li> </ul>	
<b>AWARDS</b>	1 <sup>st</sup> BlackRock NYC Intern Hackathon 2016 <i>Finalist</i> , BlackRock Founder's Scholarship 2016 <i>Finalist</i> , Google Lime Scholarship 2016 <i>Finalist</i> , Lime Connect Fellowship 2015 <i>All-Conference</i> , SEC Second Team, Water Polo 2014 <i>Academic All-American</i> , USA Water Polo 2012, 2013	
<b>SOCIETIES</b>	American Indian Science and Engineering Society (AISES) Lime Connect Network for Students with Disabilities	