Ellis L. Brown II   *Curriculum Vitae*

CONTACT INFORMATION	364 W. 18th St. Apt. 2E New York, NY 10011	ellisbrown ellislbrownii ellisbrownii	http://ellisbrown.me/ ellis.l.brown@vanderbilt.edu +1 (314) 761-1662

EDUCATION

Vanderbilt University, Nashville, TN   Aug. 2013 – **May 2017**
Osage Nation Higher Education Scholarship
Bachelor of Science, Computer Science   CS GPA: 3.6/4.0
Bachelor of Arts, Mathematics

RESEARCH INTERESTS

Deep Learning • Machine Learning • Artificial Intelligence • Computer Vision
Cognitive Science & Modeling • Human & Machine Intelligence • Neuroevolution

RESEARCH

Artificial Intelligence and Visual Analogical Systems Lab   Dec. 2016–present
Advised by Dr. Maithilee Kunda

- Proposed and implemented a computational cognitive architecture used to model and understand human visual attention in the context of visual search for a spatiotemporal target. "SpatioTemporal Template-based Search" (STTS).
- Helped create and test a novel image classification dataset "EMMI" from the viewpoint of toddlers playing with toys, described in Xiaohan Wang et al. [ICCV-17].

PUBLICATIONS

Brown, E. L., II, Park, S., Warford, N., Seiffert, A. E., Kawamura, K., Lappin, J. S., & Kunda, M. (2018, Feb. 1). *SpatioTemporal Template-based Search (STTS): An Architecture to Model Search for Spatiotemporal Targets*. Submitted to CogSci-2018.

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. [slides] [link]

PROJECTS

SSD.PyTorch | GitHub:// amdegroot/ssd.pytorch 👁 35 ★ 646 ⑂ 209   Mar. 2017
Implementation of Single Shot MultiBox Detector object detection network in PyTorch.
- Unified framework for real-time object detection using a single network, outlined in Wei Liu et al. [arXiv:1512.02325v5]
- Beat performance of original model training from scratch on VOC (mAP 77.43%).
- Code cited various times: Medium • AI GitBook • The Incredible PyTorch

Name2Gender | *Blog Post* | GitHub:// ellisbrown/name2gender   Dec. 2017
Gender Inference from Character Sequences in Multinational First Names
- Implemented Naive Bayes & Char-RNN approaches
- Wrote blog post on Medium, picked up by *Towards Data Science* Publication

DeepGenres.Torch | GitHub:// amdegroot/deepgenres.torch   Feb. 2017
Music genre classification from 3 second audio clips using CNNs built in Torch.

TEACHING

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

SELECTED COURSEWORK

Neural Networks & Deep Learning – deeplearning.ai (Coursera) • Projects in Artificial Intelligence • Convolutional Neural Networks for Visual Recognition – Stanford (online) • Artificial Intelligence • Big Data • Coding Theory & Cryptography • Algorithms • Number Theory • Probability & Statistics • Linear Algebra

PROGRAMMING SKILLS	Python • Java • JavaScript • MATLAB • TypeScript • C++ • Bash • LaTeX
	PyTorch • OpenCV • CUDA • SKLearn • NLTK • AWS • Storm • Angular2 • Node.js

INDUSTRY

Software Engineer   Jul. 2017–present
BlackRock, Aladdin Product Group – New York, NY
- Helped create a scalable system to process mutual fund reference data; used a Storm topology to distributedly process and persist ~10k records per day into Aladdin.
- Working to build out and deploy initial phase of the onboarding automation system proposed by my intern hackathon team (see below); received approval after pitching idea to senior leadership, switched teams to work on it primarily.

Software Engineering Intern   Summer 2016
BlackRock, Aladdin Product Group – New York, NY
- Built and launched an Angular2 webapp to allow custom rule creation and management for the company's cash reconciliation process.
- *Intern Hackathon Winner* (Team of 4) – Proposed and prototyped a Machine Learning system to automate contract term extraction from legal documents during new client onboarding, a business process which demands more than 10k man-hours per year.

Software Engineering Intern   Summer 2015
Exegy, Real Time Market Data Solutions – Saint Louis, MO
- Overhauled system to verify which data feeds each client is entitled to access by transitioning entitlement storage from daily XMLs to persistent MySQL database.

SOCIETIES

American Indian Science and Engineering Society (AISES)
Lime Connect Network for Students with Disabilities

AWARDS

Finalist, Google Lime Scholarship	2016
Finalist, Lime Connect Fellowship	2015
All-Conference, SEC Second Team, Water Polo	2014
Academic All-American, USA Water Polo	2012, 2013

EXTRA-CURRICULAR ACTIVITIES

Tour Guide, Vanderbilt Admissions   2014-16

Elected *Captain & President,* Vanderbilt Water Polo Club   2014-16
- SEC Champions, competed in CWPA National Championship.   2014

Elected *Social Chairman*, Kappa Sigma Fraternity (Kappa Chapter)   2014-16
- Managed $45k semi-annual budget; served on chapter's Executive Council.

USA Water Polo   2010-13
- Competed in Junior Olympics.   2012, 2013
- Trained in Olympic Development Program.   2010-13