

# P. Nigel Brown

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## Employment

### University of California, Berkeley | Center for Energy Efficient Electronics Science

June 2017 - August 2017

Transfer-to-Excellence Research Experience for Undergraduates Intern

- Completed research measuring the anomalous Hall effect in Gadolinium Cobalt nanomagnetic dots for use in computer memory systems
- Designed experimentation setup using a low-noise current source, lock-in amplifier, and nanovoltmeter and automated data collection in LabVIEW
- Soldered and wirebonded samples to chip carriers and PCBs for device testing
- Delivered several poster presentations including at a conference, the National Science Foundation annual review, and to students at Laney College

### NVIDIA Corporation

June 2016 - August 2016

Data Labeling Summer Intern

- Trained a deep neural network for autonomous vehicles in NVIDIA's automated driver assistance system (ADAS) project
- Labeled and performed quality control on thousands of images by identifying features to create a custom dataset
- Substantially improved performance of the neural network compared to all publicly available datasets

### Duration Consulting

December 2015 - September 2017

Media Assistant and Advisor

- Actively managed client social media accounts and provided technical support for audio hardware products
- Provided in-person or remote assistance setting up technical demonstrations of audio equipment at client events and industry trade shows
- Created press releases for product promotion and managed client data for their website development

### Freelance Sound Engineer

January 2011 - Present

- Record and mix talent in studios, in live venues, on film sets, and in post production
- Operate a business for repairing professional audio equipment and vintage high fidelity stereo equipment
- Graduated valedictorian of Sound Arts program at Ex'pression College
- Contributed to a GRAMMY award-winning album as a recording engineer

## Education

### Laney College

Mathematics and Computer Science Associate of Science in progress. Estimated completion Spring 2018.

Preparing to transfer to Electrical Engineering and Computer Science Bachelor of Science to be completed in 2020.

## Projects

- SafetyNet:** [Node.js]
- Designed a tool for streaming sites to use to help prevent people from committing suicide on a live stream
  - Utilized IBM Watson Artificial Intelligence to turn speech to text and analyze the text for emotions
  - App flags content and sends the streamer crisis resources when server-side mood conditions are met
  - Awarded *Best Use of IBM Watson at SiliconHacks 2017* by IBM

- Number Guesser:** [C++]
- Built a game to efficiently guess a user's number
  - Gathered a dataset by posting an online survey to choose an integer from 1-100
- <http://bit.ly/2x14EmQ>
- Achieved efficiency by performing a binary search on number's probability to be chosen

- Positivity Box:** [Python]
- Prototyped a proof of concept for an app that gives a user custom encouragement from friends when needed
  - Used a Typeform survey to collect responses and retrieved them at runtime via Typeform API
  - Integrated a custom GUI with PyQt

- Local Hack Day:**
- Organized and ran the first student-led hackathon at Laney College in conjunction with Major League Hacking
  - Selected altruism as hackathon theme and inspired numerous projects dedicated to its ideals
  - Taught workshops on APIs and Version Control for first-time hackers
  - Secured sponsorship to provide snacks and prizes to encourage attendees to keep hacking after the event

## Technical Skills

**Languages:** Python, C++, LaTeX, Node.js

**Libraries | SDKs | Technologies:** PyQt, pandas, Watson Developer Cloud, SDL2, Boost, Anaconda, Jupyter

**Operating Systems:** Mac OS X, Windows 10, Ubuntu Linux 16.04

## Publications and Presentations

**P. N. Brown**, A. El-Ghazaly, D. O'Mahoney, and J. Bokor, "Measuring the anomalous Hall effect on GdCo Nanodots," SACNAS – The National Diversity in STEM Conference, Salt Lake City, UT, 2017.

<http://bit.ly/2yCupNK>

A. El-Ghazaly, D. O'Mahoney, C. H. Lambert, J. Gorchon, **P. N. Brown**, A. Pattabi, H. S. P. Wong and J. Bokor, "Ultrafast Magnetic Memory Bits Using All-Optical Magnetic Switching," Berkeley Symposium on Energy Efficient Electronic Systems/Steep Transistors Workshop, Berkeley, CA, 2017.

**P. N. Brown**, "Perception Testing - Spatial Acuity," 135th Audio Engineering Society Convention Paper

<http://bit.ly/2n3pGQK>