

P. Nigel Brown

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Employment

Undergraduate Research Intern

San Diego Supercomputer Center | August 2018 - Present

- Benchmark and quantify acceleration of applications using GPUs on Comet to develop suggestions and best practices
- Develop and modify existing Singularity definitions and containers to accommodate SDSC users
- Create Popper pipelines with continuous integration for reproducible results of applications built with competing compilers and libraries

thinkLab Software and Hardware Engineering Intern

IBM Research - Yorktown Heights, New York | June 2018 - Present

- Designed and developed an interactive audio application with a server and API for the IBM Research Dataspace
- Built several demos to showcase IBM Research technology and teach concepts including Distributed Deep Learning, an Internet of Things robot, a millimeter wave Hyperimager, and an analog circuit Single Layer Perceptron Network

Undergraduate Research Intern

University of California, Berkeley | Center for Energy Efficient Electronics Science | June 2017 - August 2017

- Completed research measuring the anomalous Hall effect in Gadolinium Cobalt nanomagnetic dots for use in computer memory systems
- Designed experimentation setup using a 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

Data Labeling Summer Intern

NVIDIA Corporation | June 2016 - August 2016

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

Freelance Sound Engineer

June 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
- Recording engineer on a GRAMMY award-winning album

Projects

GitHub Campus Expert

- Build communities and support student events such as hackathons as a student representative of GitHub
- Provide students access to resources to spread the hacker ethos and build active developer communities
- Events at which I have mentored and/or given workshops include Microsoft Build 2019 (Seattle, Washington), Tree Hacks 2019 (Stanford University), and Victoria Battlesnake Tournament (Victoria, British Columbia, Canada)

UCSD Supercomputing Club

<https://bit.ly/2YM1noZ>

- Founded the first of its kind supercomputing club at University of California, San Diego
- Led numerous workshops for students about GNU/Linux, High Performance Computing, and Cloud Computing
- Built and maintained several local and cloud computer clusters for students to run applications

Laney Supercomputing

C, Bash, Linux, Bazel

<https://bit.ly/2PwxZhK>

- Member of competition team sponsored by Cray and the Lawrence Berkeley National Labs, NERSC
- Built, ran, and optimized various scientific computing, modeling, deep learning, and benchmarking applications on various architectures and virtual machines
- Deployed weather modeling application to Azure CycleCloud and reproduced results on existing datasets

Local Hack Day

- Organized the first 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

SafetyNet

Node.js

<https://bit.ly/2wBcbKR>

- Created a tool for streaming sites 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 emotion
- 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

Publications and Presentations

P. N. Brown, M. Tatinen "Performance Considerations for Containers on San Diego Supercomputer Center's Comet," PEARC 19, July 2019

P. N. Brown, "Designing Interactive Audio Experiences for the IBM Research Dataspace," IBM Research AI & IBM Industry Research Summer Intern Poster Session, August 2018

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>

P. N. Brown, "Perception Testing - Spatial Acuity," 135th Audio Engineering Society Convention Paper. <http://bit.ly/2n3pGQK>

Education

Ex'pression College for Digital Arts

Bachelor of Applied Science, Sound Arts; October 2013; Valedictorian