BRIAN COOPER

BS Computer Science, University of Minnesota

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EXPERIENCE

Full Stack Engineer
DankWorks LLC | January 2020 - Present

Recent startup that creates interactive platforms that provide individuals the means by which they can provide for themselves. Current flagship development is AdDank, an advertisement distribution platform that crowdsources the distribution of advertisements by allowing individuals to get paid for distributing an advertiser's ad content, fueled by freedom of speech and a focus on grassroots characteristics. Primary use of Django, React, and Redux with AWS as well as various other frameworks and libraries. Perform DevOps while operating under an Agile workflow. Sponsored CPAC 2020 in Washington DC.

Geospatial Algorithms Research Assistant (Remote)
Minnesota Population Center | December 2019 - February 2020

Implemented various geospatial algorithms for the Minnesota Population Center such as Geographic Self-Organizing Maps (GeoSOM), Average Isoperimetric Quotient (ISO Q), and Akaike Information Criterion (AIC). Combined use of MATLAB, R, Python, and Jupyter with various statistical and machine learning libraries.

Interactive Visualization Designer (Remote)
University of Minnesota | June 2019 - March 2020

Developed interactive visualizations and games for lessons that teach STEM concepts under National Science Foundation's *Hour of Cyberinfrastructure* project (Award Abstract #1829708) using JavaScript and D3.js. Wrote Python scripts and code to augment the lessons. Integrated visualizations into Jupyter Notebooks with various UI/UX extensions and modifications. Created SVG components for use in lessons with Adobe Illustrator.

Deep Learning for Dendrology Research Assistant (Remote)
Griffin Lab - Dendrology | December 2019

Created convolutional neural networks for feature extraction and classification from high-resolution dendrological imagery (wooded plants), such as tree cell separation, cell wall width, and interspecies discrepancies. Used various imaging and anomaly detection techniques, such as Sobel filtering and Canny edge detection. Implementations used scikit-learn and OpenCV for prototypes, with TensorFlow and Keras for formal deep learning model construction.

EDUCATION

University of Minnesota - BS Computer Science
Fall 2018 - Fall 2019 (graduated December 2019)

- Emphasis: Artificial Intelligence, Bioinformatics
- International Collegiate Programming Contest, Association for Computing Machinery, Cryptocurrency Club, Environmental Student Association

Normandale Community College - AS Computer Science
Fall 2016 - Spring 2018 (graduated May 2018)

SKILLS

- **Languages:** Python, JavaScript (TypeScript), C++, C#, Rust
- **Web:** React, Redux, Django, Node (Express), WebGL (Three.js), HTML, CSS (SASS)
- **AI:** TensorFlow, Keras, scikit-learn
- **Software:** Adobe Suite (Ps, Ai, Pr, Id, Ae), Blender, Unity, Godot
- **Other:** OpenGL, PostgreSQL, MongoDB, WebAssembly