Donelson Graham Berger

✉ donelsongrahamberger@gmail.com   🌐 dgberger.com   in linkedin.com/in/donelson-g-berger

Experience

Amazon, Grocery Robotics
February 2022 – Present

Software Engineer / Software Engineer II — *Seattle, WA*

- Successfully launched Amazon's first micro-fulfillment automation solution for Amazon Fresh
- Achieved a 45% reduction in grocery picking cost by leveraging serverless cloud architecture to create an unified API automation integration service which abstracts the complexities of automation integration for our grocery backend
- Lead development for our unified API service, driving development and road map discussions with internal and external teams for as we scale
- Proved out an automation observability tool by designing and implementing its steel thread as a React web app
- Enabled business intelligence to quantify automation performance by creating a machine metrics service which periodically polls data which is then stored within an data lake
- Improved software operational observability by setting our team's dashboards and ticketing paradigm and migrating our existing monitoring code to said paradigms
- Maintained CI/CD from alpha to production through Typescript and AWS, using infrastructure-as-code methodologies

Banks Lab, Department of Anesthesiology
March 2020 – December 2021

Undergraduate Researcher — *Madison, WI*

- Demonstrated functional equivalence between non-random iEEG sub-samples and their fMRI counterparts using Diffusion Map Embedding, a non-linear dimensionality reduction technique
- Eliminated repetitive hyper-parameter turning experiments by creating a real-time data processing and visualising application, which processed over 40 patients and 300 GBs of data
- Ensured seamless project transitions with detailed onboarding materials and technical guides

Capital One, Card Teach-Machine Learning
June 2021 – August 2021

Software Engineer Intern — *McLean, VA*

- Learned Machine Learning Ops, working on a gradient boost machine learning model, which determined the likelihood of credit card debt repayment after six months of delinquency
- Optimized customer data ingest into machine learning models using Snowflake and Spark
- Orchestrated containerized service deployment utilizing Helm, Docker, and Kubernetes

AtomBeam Technologies
July 2019 – January 2020

Software Engineer Intern — *Moraga, CA*

- Automated performance testing of AtomBeam's compression algorithms through Python and Boto3 SDK on AWS
- Reduced AWS cost by consolidating data storage

Projects

End to End Visual Story Generator
January 2023

- Created a text to video story generator by integrating GPT3, Stable Diffusion, and Text-to-Speech | *Demo*

Lunar Lander Reinforcement Learning
June 2021

- Implemented Actor-Critic, a reinforcement learning method, to solve LunarLander-v2 environment in OpenAI gym

Publications Presentations, and Awards

Published in PLOS Biology: Matthew I. Banks, Bryan M. Krause, **D. Graham Berger**, et al. "Functional geometry of auditory cortical resting state networks derived from intracranial electrophysiology"

Conference Poster: **D. Graham Berger**, et al. "Comparison of functional geometry of cortical networks derived from functional magnetic resonance imaging (fMRI) versus intracranial electroencephalography (iEEG)", SFN 2021

Conference Poster: Matthew I. Banks, Bryan M. Krause, **D. Graham Berger**, et al. "Functional geometry of cortical resting state networks derived from intracranial electrophysiology", SFN 2021

Conference Poster: Declan Campbell, Bryan M. Krause, **D. Graham Berger**, et al. "Graph theoretic measures indexing arousal state transitions during sleep and anesthesia in human subjects", SFN 2021

Hilldale Research Fellowship | *My proposal*, April 2021

Eagle Scout Award, May 2016

Education

University of Wisconsin Madison
September 2018 – December 2021

Bachelor of Science in Computer Science — *Madison, WI*

Programming Knowledge

Languages: Java, Typescript, Python, React, Go, C

Tools: AWS, Git, Docker, Figma, PyTorch, Spark, Tailwind CSS, Snowflake, Kubernetes