George Ian Sornson

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Education

University of Illinois Urbana-Champaign **Expected Graduation: May 2026**
M.S. Computer Science, The Grainger College of Engineering *Champaign, Illinois*

University of Illinois Urbana-Champaign **Expected Graduation: May 2025**
B.S. Computer Science, The Grainger College of Engineering *Champaign, Illinois*
Relevant Coursework: Data Structures, Database Systems, Systems Programming, Computer Architecture, Algorithms, Probability and Statistics, Linear Algebra, Numerical Methods, Machine Learning, Compilers

Experience

IMC Trading **Jun 2025 – Aug 2025**
Incoming Software Engineer Intern *Chicago, IL*

Capital One **Sep 2024 – Present**
Machine Learning Engineer Intern *Champaign, IL*

- Engineered a robust **ETL pipeline** using **AWS S3, PyTorch**, and **CLIP** to create tabular training datasets for a user-based content recommendation system
- Bench marked algorithms such as **KMeans, UMAP, t-SNE**, and **PCA** to cluster image, text, and customer metadata for user driven personalization
- Developed **multithreaded** and **multi-GPU Python workflows** to preprocess and clean data for model training resulting in over **93x faster** development and testing times

Gallagher **Jun 2024 – Aug 2024**
Software Engineer Intern *Rolling Meadows, IL*

- Trained and bench marked machine learning models with **scikit-learn** using **random forests** and **linear regression** for forecasting insurance claims data
- Automated the conversion process of over 1,200 DAX queries to be Snowflake compatible using Python **saving over 500 hours** of manual work

Quant at Illinois **Feb 2024 – Present**
Head of Software *Champaign, IL*

- Built a price time priority auction system for a market making simulation using **React.js** and **Firebase** to host a competition with **over 150 concurrent users**
- Aided in securing over **$27,000** in funding from companies like IMC, DRW, HRT, Optiver, and Jane Street

Projects

CUDA Optimized Convolutional Neural Network | *C, CUDA*

- Optimized the forward pass of a CNN to train 10,000 images down to 40ms from 120ms using CUDA
- Utilized streams, half2, tiled matrix multiplication, matrix unrolling, and shared and constant memory

3D Ray Casting Engine | *C++, SDL2*

- Implemented a ray casting engine in C++ to render a two dimensional image as a three dimensional space
- Integrated the SDL2 graphics library to simulate movement, lighting, depth, and perspective

Self-Driving Car in Grand Theft Auto V | *Python, Tensorflow, OpenCV*

- Trained a model using a convolutional neural network with TensorFlow for autonomous driving in Python
- Collected and manipulated over 100,000 in game images for training data with OpenCV

Technical Skills

Languages: Python, C++, C, Java, SQL, OCaml, JavaScript, Verilog, Typescript
Technologies: PyTorch, React.js, Next.js, OpenCV, AWS, Docker
Concepts: Software Engineering, Quantitative Finance, Machine Learning, NLP, Backend, Agile, Multithreading