

# Thor Christoffersen Hochman

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Los Angeles, CA

## Education

### University of Southern California

Los Angeles, CA

#### BSc. in Computer Science

Aug. 2022 – May 2026

- Relevant Coursework: Data Structures and Object Oriented Programming, Software Development, Algorithms and Theory of Computing, Linear Algebra and Differential Equations, Discrete Methods, Embedded Systems.
- Organizations/Awards: Presidential Scholar, AI Safety USC, Google ExploreCSR - USC Computational Media Intelligence, Trojan Scholar Society, Annenberg Media Web Development Team, Corpus Callosum.

### British International School Shanghai, Puxi

Shanghai, China

#### International Baccalaureate Diploma Program (41/45)

Aug. 2020 – Jul. 2022

- Relevant Coursework: Computer Science HL 7/7, Physics HL 7/7, Math AA HL 6/7.

## Experience

### Speedperform

Copenhagen, Denmark

#### Software Engineering & Machine Learning Intern

Jun. 2023 – Jul. 2023

- Pioneered AI integration and responsible LLM utilization in the company's premier product, providing valuable consultation.
- Built a virtual chatbot assistant utilising Pinecone's vector database, Langchain, and function calling with GPT's API, outperforming previous models used by clients.
- Seamlessly integrated text generation models into the company's flagship product, allowing clients - primarily the world's leading Telecom companies - to automatically generate troubleshooting article content, significantly increasing efficiency and reaching a mass userbase of 500+ Million individuals worldwide.

### Innovative Charging Solutions (ICS) - Volkswagen Group

Suzhou, China

#### Software Engineering Intern

Jul. 2021 – Aug. 2021

- Analyzed EV quick-charging station's electrical, mechanical, and production systems design.
- Revised pre-existing code in accordance with company best practices, maximizing efficiency and maintainability.
- Collaborated with coworkers in Mandarin and German, debugging complex C code, and ensuring best practices.
- Compiled final report reviewing external code after attending biweekly group floor meetings.

## Projects

- **Google's BERT - NLP Research Paper:** Independently designed and executed an original experiment to investigate the impact of sentence length on BERT's accuracy in defining words in context, drawing on ML theory principles such as transformer models. Documented findings in a 38-page, 4000 word, research paper.
- **Recipe Finder:** Created a semantic recipe search of over 180K+ recipes using word embeddings, cosine similarity, and K-NN.
- **Android Cookbook App:** Wrote a Cookbook app in Android Studio (Java) utilizing hash maps, Firebase's authentication and real-time database, OOP, parcelable objects for intents, a model-view-controller design, validation, external libraries, and more. Outlined customer requirements; documented planning, design, development, and functionality of app.
- **Online Marketplace:** With C++, created the back end of an Amazon-like e-commerce platform with indexed keyword searching.
- **Streaming Service:** Emulated the back end to a Netflix-like streaming service with C++, recommending shows based on interests.
- **2D and 3D Raytracing Simulation:** Simulated light with 2D and 3D Raytracing on Python Pygame. Allowed user to control a point that changed the location of the source of light as it spread and shone onto obstacles.
- **Interactive Map of World's Harbors:** Developed an interactive map using Processing library as a visual aid for presentation on ballast water contamination. From a database, retrieved latitude and longitude coordinates to project onto a map as x,y values.

## Skills

- **Technical Skills:** C++, Java, Python, SQL, Google BERT, Android Studio, Firebase, Processing, GDB, Valgrind, Git, Docker.
- **Languages:** (Native) English and Spanish, (Fluent) Mandarin, (Professional) German, (Conversational) Danish.
- **Creative Skills:** Logic Pro X, Ableton Live 11, Premiere Pro, Final Cut Pro, Adobe Lightroom Classic, Adobe Photoshop.

## Involvement

- **USC Corpus Callosum:** Director of Outreach; Team lead of AI Music generation project.
- **AI Safety USC:** Course Facilitator; Advanced Track; Technical Track AI Fellow; Teach comprehensive curriculum based on AGI Safety Fundamentals; Develop artificial intelligence programs and research projects using Deep Learning, Hugging Face, PyTorch.
- **USC-MEGA Game Jam Hackathon:** Brainstormed, outlined, built, and coordinated collisions, sound, and shooting mechanics. Pair programmed procedural map generation for Unity-based 2D top-down movement shooter in a group of 4.
- **Tutoring:** Tutored an IB Computer Science student in advanced topics such as data structures, algorithms, and object-oriented programming, advancing understanding and performance in the subject. Predicted grade rose from 3/7 to 6/7.