Liam Niehus-Staab

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Education

Grinnell College *Grinnell, IA*

Bachelor of Arts *Expected Graduation 2020*

- Computer Science Major
- Major GPA: 3.918 Overall GPA: 3.611
- Deans list Fall 2016 and Spring 2017

Experience

Software Engineering Intern *Mountain View, CA*

HyTrust Inc. *June 2019 - August 2019*

- Used openAPI to make public Python API self-documenting, greatly reducing turn-around time for documentation updates
- Increased products' network security by integrating SSL certificate validation between linked products in the field, utilizing openSSL.
- Used Coverity to locate and fix potential bugs in C code underlying the product API.

Research Assistant *Grinnell, IA*

Undergraduate Research Project, Image Synthesis for Machine Learning *June 2018 - August 2018*

- Developed a C/C++ program to generate synthetic training data for a text recognizing neural network.
- Training with data generator improved model accuracy by 10% over accuracy when trained on industry-standard data sets.
- See the research code at https://github.com/niehusst/MapTextSynthesizer

Projects

GPU Enabled Sudoku Solver *Grinnell, IA*

Grinnell College *Spring 2019*

- Used CUDA to multithread a constraint propogation based sudoku solving algorithm.
- Final program is able to solve 240,000 9x9 sudoku puzzles per second in a Linux environment.

Relevant Course Work

Control of Mobile Robots

Coursera (tought by Georgia Tech) *Summer 2019*

- Learned the fundamental concepts of control theory for dynamical navigation systems.
- Used MATLAB to develop a simulated robot that can autonomously navigate an unknown obstacle course to reach a goal.

Computer Vision

Grinnell College *Spring 2019*

- Explored common computer vision algorithms and foundations.
- Delved into the inner workings of Convolutional Neural Networks.
- Applied course knowledge to develop a neural network that could detect cancerous tumors in CAT scan images.

Embedded Systems

Universidad de Cantabria *Fall 2019 - Current*

- Learned to develop hardware logic for FPGAs with VHDL and use raw C to interface with peripherals

Skills

Programming Languages Python, Java, C, C++, MATLAB, VHDL