

# 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 Django API self-documenting, greatly reducing documentation update turn-around time.
- 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-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 propagation based sudoku solving algorithm.
- Final program is able to solve 240,000 9x9 sudoku puzzles per second in a Linux environment.

### Robot Programmer

Kalamazoo, MI

FIRST ROBOTICS COMPETITION, TEAM 6002

Oct. 2015 - May 2016

- Wrote Java code for the robot's basic abilities and autonomous mode, helping our robot reach regional semi-finals.
- Optimized PID controls to achieve smooth control of robot drive system.

## Relevant Course Work

### Control of Mobile Robots

COURSERA (TOUGHT BY GEORGIA TECH)

Summer 2019

- Learned the fundamental concepts of control theory for developing 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

- Will learn the architecture of hardware and software, and how they interact.