

# ALEXANDER B. POWERS

M.S.E. Candidate in Electrical and Computer Engineering

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## EXPERIENCE

### Research Fellow

#### SINAPSE Lab

Dec 2017 – Ongoing Iowa City, IA

- Developed and applied deep learning techniques to various medical imaging modalities in two and three dimensions.
- Utilized High Performance Computing (HPC) resources including GPU accelerated computing and pipeline parallelization across compute nodes.

### Software Engineering Intern

#### Pariveda Solutions

May 2019 – Aug 2019 Chicago, IL

- Developed mobile and web applications in Angular.js for Lumity (501(c)(3)), a Chicagoland non-profit, to track student feedback from educational STEM programs.
- Worked with AWS services for data storage, CI/CD, authentication, authorization, and serverless API development.

### Director of Logistics

#### Hacklowa

Aug 2017 – May 2019 Iowa City, IA

- Arranged free transportation for students to attend hackathons throughout the Midwest.
- Mentored a team of five in developing a microservice-based application for stock trading and stock price prediction.

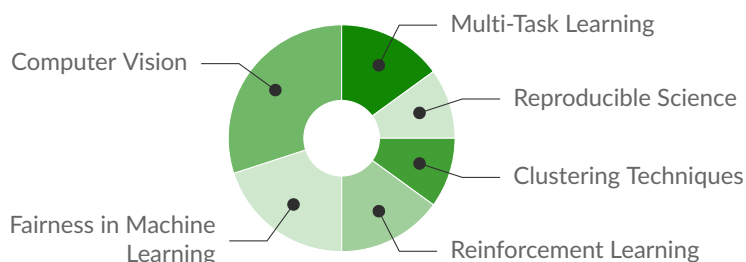
### Teaching Assistant (C++ & Java Software Development)

#### UIOWA ECE

Aug 2017 – Dec 2018 Iowa City, IA

- Created eight new assignments spanning topics from object-oriented programming and inheritance to graph algorithms and machine learning.
- Proctored over 50 Oral Exams, in which I evaluated student understanding of key course topics.

## RESEARCH INTERESTS



## EDUCATION

### M.S.E. Electrical & Computer Engineering

#### University of Iowa

Aug 2019 – May 2021

### B.S.E. Computer Science & Engineering

#### University of Iowa

Aug 2016 – May 2020

## PROJECTS

Haiti Distributed Healthcare Application

CIFAR100 Multi-Task Learning

CIFAR10 Transfer Learning

Categorical Sentiment Classification

Automatic Pneumonia Diagnosis

## LANGUAGES

Python, C++, Java, TypeScript ●●●●●●  
Ruby, Bash, Matlab ●●●●●●  
Haskell, Agda ●●●●●●

## FRAMEWORKS

PyTorch, ITK, NumPy ●●●●●●  
TensorFlow, Pandas, MONAI ●●●●●●  
React, Angular, Rails ●●●●●●

## SPOKEN LANGUAGES

English ●●●●●●  
French ●●●●●●

## PUBLICATIONS

### Conference Proceedings

- “Robust Automatic Multiple Landmark Detection” (2020). In: 2020 IEEE 17th International Symposium on Biomedical Imaging (ISBI 2020).

## REFEREES

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## RELEVANT COURSEWORK

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Big Data Analytics

Machine Learning

Deep Learning

Digital Image Processing

Medical Image Analysis Tools & Techniques

Software Engineering Languages & Tools

Computational Geometry

Optimization Techniques

Digital Signal Processing