

## EDUCATION

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<b>University of Iowa</b> , Iowa City, IA <i>Ph.D. in Computer Science</i>	Expected May 2023
<b>Indiana University</b> , Bloomington, IN <i>M.S. in Data Science</i>	May 2018 GPA: 3.80 / 4.0
<b>Handong Global University</b> , Pohang, South Korea <i>B.S. in Computer Science &amp; Management, Cum Laude</i> Merit Scholarship (Top 1% on Spring 2015)	August 2016 GPA: 3.94 / 4.5 Fall 2014 – Fall 2015

## AWARDS

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<b>First Place in 2017 Indiana Medicaid Data Challenge</b>	October 2017
<ul style="list-style-type: none"><li>Published the solution to official website of the State of Indiana: [<a href="#">Data Analysis Winner: Random Variables</a>]</li><li>Visualized gaps in care by mapping mental health treatment capacity and demand in the Indiana state</li><li>Discovered potential ‘underserved’ areas with 94% accuracy using Random Forest classifier</li></ul>	

## PROJECTS

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<b>Image Captioning using Deep Learning</b>	March 2018 – May 2018
<ul style="list-style-type: none"><li>Implemented a model that takes an image and outputs a relevant caption</li><li>Applied Convolutional Neural Networks (CNN) and Recurrent Neural Networks in an encoder-decoder scheme</li></ul>	
<b>Dog Breed Classification</b>	February 2018 – March 2018
<ul style="list-style-type: none"><li>Developed a module that takes an image of a dog as input and predicts the breed of the dog</li><li>Achieved 79% accuracy in classifying dogs into 133 categories using transfer learning in CNN</li></ul>	
<b>Movie Review Sentiment Classification</b>	February 2018 – March 2018
<ul style="list-style-type: none"><li>Implemented a Neural Network model that classifies a movie review as positive or negative</li><li>85.82% accuracy received when tested the model on 25,000 reviews from Internet Movie Database (IMDB)</li></ul>	
<b>Ambulance Siren Detection</b>	January 2017 – May 2017
<ul style="list-style-type: none"><li>Suggested a novel method that detects the approaching ambulance using its siren signal with 89% accuracy</li><li>Experimented with several dimensionality reduction techniques on the sound signal</li></ul>	
<b>Single-Cell Classification</b>	January 2017 – May 2017
<ul style="list-style-type: none"><li>Classified mouse brain cells into ten types with an accuracy of 96.5% using Support Vector Machines</li><li>Appropriately reduced the dimension of the dataset using Principal Component Analysis</li></ul>	

## WORK EXPERIENCE

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<b>Graduate Research Assistant</b> , University of Iowa	January 2019 – Current
<ul style="list-style-type: none"><li>Applied computational science to address epidemiological problems in <a href="#">Computational Epidemiology</a> group</li><li>Simulated Healthcare-acquired infections based on the healthcare worker contacts in a hospital unit</li><li>Generated random graphs for contact networks to understand the essential features of graph topology</li></ul>	
<b>Graduate Teaching Assistant</b> , University of Iowa	August 2018 – December 2019
<ul style="list-style-type: none"><li>Helped undergraduate students to better understand Discrete Structures course materials during office hours</li></ul>	
<b>Intern at Biology Laboratory</b> , Handong Global University	March 2016 – June 2016
<ul style="list-style-type: none"><li>Worked on binary classification problem of protein sequences</li></ul>	
<b>Python Camp Instructor</b> , Handong Global University	February 2015 - February 2016
<ul style="list-style-type: none"><li>Lectured Python programming at two Python camps for undergraduate students</li><li>Translated and published a Python textbook from English to Korean with Dr. Youngsup Kim for the camp</li></ul>	
<b>Teaching and Research Assistant</b> , Handong Global University	March 2015 – June 2016
<ul style="list-style-type: none"><li>Contributed to developing course materials for Data Structures and Java Programming</li><li>Participated in Open edX project</li></ul>	

## TECHNICAL SKILLS

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**Data Tools:** Keras, Tensorflow, Scikit Learn, Tableau, SPSS

**Languages:** Python (Numpy, Pandas), R, SQL, Java, C/C++, Bash, Matlab

**Version Control, Editing:** Git/GitHub, Vim, Latex

**Web Development:** JavaScript, HTML, CSS (hosting personal blog using AWS EC2: <http://hankyujang.com>)