

Dillon Koch

dillon.j.koch@gmail.com | 319-654-4499 | [linkedin.com/in/dillon-koch](https://www.linkedin.com/in/dillon-koch) | github.com/DillonKoch

EDUCATION

Stanford University, Graduate Certificate, Artificial Intelligence *January 2021 – March 2022 (Est.)*

- Cumulative GPA – 3.33/4.00
- Coursework: CS221 (AI Principles and Techniques), CS229 (Machine Learning), CS231A (Computer Vision: From 3D Construction to Recognition), Enrolled in CS234 (Reinforcement Learning) in Winter 2022

The University of Iowa, BBA, Business Analytics *August 2016 – December 2019*

- Cumulative GPA – 3.80/4.00
- Graduated with academic distinction, reserved for students with GPA's in the 95th percentile and above
- Relevant Coursework: Analyzing Data for Business Intelligence, Applied Linear Regression, Computer Science I, Data Mining, Database Management, Statistics for Business, Visualizing Information

WORK EXPERIENCE

Artificial Intelligence Engineer *December 2019 - Present*

Collins Aerospace, Cedar Rapids, IA

- Served as Technical Lead on SmartBid, a project that used OCR to collect data from engineering drawings to assist the company in making more effective bids for raw materials
- Developed the SmartBid AI system using AWS Textract to read data from over 500,000 engineering drawings across 7 companies with 97% accuracy, saving \$9.8M and 25,000 labor hours yearly
- Built a web scraping program with Selenium to monitor airline traffic recovery every day during COVID-19

Data Science Intern *May 2019 – December 2019*

Collins Aerospace, Cedar Rapids, IA

- Created a web-scraping Python program using BERT word embeddings and an LSTM to identify company-related product security articles and distribute them in daily emails, adding about \$150,000 in yearly value
- Programmed the NVIDIA JetBot, a small autonomous car, to avoid objects and follow a path using convolutional neural networks in Keras with a team of interns
- Researched recent methods for implementing explainable reinforcement learning AI agents

Data Management and Analysis Student Assistant *August 2018 – December 2019*

University of Iowa Academic Support & Retention, Iowa City, IA

- Designed an interactive Python program to generate customizable data visualizations about student responses to the University's annual Excelling@Iowa survey, given to freshmen and new transfer students
- Created predictive models in Python and R to predict students' GPA and retention probability after their freshman year based on academic and survey data
- Identified students eligible for academic support resources by writing SQL queries

SIDE PROJECTS

Sports Betting (Stanford CS229 Project)

- Wrote 9 web scraping programs in Python to collect sports scores, statistics, betting odds, and injury data
- Merged and cleaned data to provide models with each team's odds, recent statistics and player injuries
- Predicted upcoming spread, moneyline, and total (over/under) bets likely to win using simple baseline models, logistic regression, support vector machines, and deep learning

Ping Pong Shot Charts and Training Games (Stanford CS231A Project)

- Analyzed ping pong videos to create a shot chart displaying where each shot landed on the table
- Built deep learning models in PyTorch for ball detection, table segmentation, and event detection
- Extended the shot chart to create training games that encourage players to train specific skills
- View a demo at <https://www.youtube.com/watch?v=zhFcnpBYkKQ>

Popquiznotes

- Built a notetaking app that increases studying efficiency by writing questions and notes synchronously
- Written with HTML, CSS, React.js, MongoDB, and hosted in the cloud with MongoDB Realm and AWS S3