

Kastan Day

kastanday.com | kastanday@gmail.com | (206) 801-0466 | [linkedin.com/in/kastanday](https://www.linkedin.com/in/kastanday)

EDUCATION

University of Illinois at Urbana-Champaign Ex: May 2023
MS Computer Science in Applied Machine Learning

Relevant coursework:

- ML for Bioinformatics, Algorithms for Bioinformatics

Swarthmore College Sep 2016 – May 2020

BA Computer Science, BA Cognitive Science (double major)

Relevant Coursework:

- Machine Learning, Adaptive Robotics, Data Structures and Algorithms, Software Engineering, SQL Database Design
- Calculus, Linear Algebra, Statistics 1 & 2, Applied Statistics

Phillips Academy Andover high school Andover, MA

SKILLS

Proficient in: Machine learning engineering and data engineering, Python, C/C++, Javascript (HTML/CSS), R, Java

Data science ML: PyTorch, TensorFlow, Keras, sklearn, fastai, OpenCV, PCL, numpy and pandas, Spark, Luigi, Kubernetes, distributed ML training (Ray.io)

Full stack web: Node.js, React, Express, Flask; SQL, MongoDB; API design (large datasets), Docker, GCloud, AWS

Technologies: Linux (high confidence), shell scripting (Bash/Python), Git, LaTeX, Adobe CC

WORK EXPERIENCE

U of Illinois National Center for Supercomputing Applications (NCSA)

Research Assistant in Distributed Machine Learning Training

Oct 2021 – Present

- Implemented distributed ML training on a GPU supercomputer, enabled by domain experts in biology and physics. Funded by the NSF.
- Integrated large-scale experimental scientific data and high-performance data analytics & compute.

Sarcos Robotics – The world’s most advanced [human exoskeleton](#) (CES expo demo)

Machine Learning R&D Intern

May – Sep 2021

- Independently developed machine learning vision segmentation models running on edge computers (Nvidia Jetson on-robot) and sensor fusion with 3D point clouds to understand 3D scenes in **pixel-per-pixel segmentation**, at 100+ FPS, for highly accurate robot planning.
- Tech: PyTorch & TensorFlow & Caffe, custom transfer learning, research engineering for 10x ML speedup by re-writing in TensorRT.

Biooop Sleep (startup) biooopssleep.com

Silicon Valley, CA

Co-Founder

Jan 2018 – Dec 2019

My co-founder and I built Biooop to solve the global crisis of sleeplessness, as enabled by personalized and preventative care using wearables data.

- **Backend web dev:** I designed and deployed REST APIs for machine learning inference, and research-grade ANOVA statistical analysis in R. I also built robust data pipelines for continuous ingest, and transform of customer’s data, and built and maintained the full product lifecycle using MongoDB, Express, React, NodeJS.
- **Communication:** my writing and pitch secured Y-Combinator and Trinity Ventures on Sand Hill road interviews, and an invite to their YC120 conference for 100 promising young people to have a weekend of unstructured conversations with 20 Silicon Valley tycoons.
- **Customer obsessed:** I conducted 350 customer interviews, and personally onboarded each of our first 150 customers. This hands-on approach enabled max-speed iteration by understanding customer pain points and building retention features to see next day improvements.

NASA ([LaRC Autonomy Incubator](#))

Software Engineering Intern

05/2017 – 08/2017 and 05/2018 – 08/2018

- I was wholly responsible for the computer vision software running a prototype robotic arm to assemble satellites while in Earth’s orbit.
- I developed highly parallel camera data filtering and intelligent smoothing in C++. I contributed to two open source projects to increase the performance of my algorithm 10x from the standard PCL implementation. I thrived in a highly collaborative NASA Rapid Research group.
- **Tech:** production quality C++, [OpenCV](#) and [PCL](#), [ROS](#), Linux system admin (Bash/Python scripting), [Intel Realsense 3D](#), Doxygen.

NASA ([LaRC Autonomy Incubator](#))

Science Communication Video Intern – [view my best work on my website](#)

Summer 2016

SOFTWARE PROJECTS

HackMIT – 2nd consecutive win! [1 of 10 overall winners](#) out of 400+ teams and 1,250 students

Sep 2018

Won best use of machine learning (Microsoft Azure), and the best use of natural language processing (Quora)

- Created an app to display ‘snapshots’ of your day to help you remember and search your life, and we encouraged you to journal about it. My section of the project was to generate a natural-language question or journaling prompt about an image.
- We won from the clever ways we constrained the unsolved problem of language generation, and quickly implemented a deep learning pipeline to generate high-quality, natural sentences every single time. Key tech: TensorFlow, Word2Vec, NLP, NLTK.

HackMIT – [1 of 10 overall winners](#) out of 400+ teams and 1,250 students

Sep 2017

Won Best hack for the Social Good (Baidu) and Most Interesting use of Data (Hudson River Trading)

- Created [web app for fake news detection](#) where I cleverly designed and tested a novel stance detection model in **TensorFlow**. You submit a link to an article, and if many reputable sources ‘agree’ with it then we can say it is most likely true. [See more!](#)

HackSwarthmore – ‘Most innovative use of technology’ winner

- I built an Ethereum smart contract in **Solidity** to pay users for asking and answering questions, based on votes, like StackOverflow.

AWARDS & ACCOMPLISHMENTS

D1 Ultimate Frisbee Player on Illinois Rise (a top 20 D1 program)

2021

First Ascent of Highest Unclimbed Peak in Colorado using custom drone ([media coverage here](#))

Jun 2016