

Ancel Carson

Prof. Doug Lim

COSC 3403-01

18 January 2019

SR. Software Engineering, Tools Position at Anki

Sr. Software Engineer, Tools

at Anki ([View all jobs](#))

San Francisco, CA

About Us:

Anki is a leading consumer robotics company, founded by three Carnegie Mellon Robotics Institute graduates. We're building on decades of scientific research to make artificial intelligence accessible to everyone. We are dedicated to creating unique consumer products that people would not expect to be possible, powered by robotics and AI.

We deliver accessible consumer robots at high-scale, along the way solving incredibly hard, real-world robotics problems while building a great consumer brand and company. Our products perform under a wide variety of real-world conditions in people's homes, every day, reliably and consistently and aim to represent the premium and most capable choice in the categories they are in.

We push the boundaries of expectations for what an affordable and accessible consumer robot can do today and we're leveraging our presence in more than nearly two million households to

build a software, hardware and cloud technology stack that will power a wide variety of even more capable consumer robots in the near future. Our earlier products in entertainment ([Overdrive](#) and [Cozmo](#)) have been near the top of their categories for years, and Anki is now branding out into Home Robotics with continued development to push the boundaries on the smart home and into diverse related sectors.

Recently, Anki launched [Vector](#), the company's first fully autonomous, always-on home robot with a rich personality that is also a helpful companion. Being cloud-connected and packing an impressive amount of tech in a small form, *Vector* ([The Good Robot](#)) is a living character and an evolving consumer robotics platform that will continually expand for years to come.

To date, we have closed more than \$200M in investments from top-tier investors such as JP Morgan Chase. Last year, Anki generated nearly \$100M in revenue.

We're proud to be regarded as industry leaders in the consumer robotics & AI space. Some of our recent accolades include:

- Fast Company's Most Innovative Companies in the "Robotics" Category (2015, 2016 & #2 in 2017)
- CB Insight Artificial 100 List (2017 & 2018)
- Robotics Business Review "RBR50" List 2017
- San Francisco Business Times Tech & Innovation Awards 2017

Visit the Anki [website](#) and find us on [Facebook](#) and [YouTube](#) to learn more.

Responsibilities:

- Test, Design, implement, and expand mission critical and high-volume AI services running on a major cloud service
- Evaluate existing AI services from major cloud providers involving voice, NLP, and image recognition
- Create and enhance robust test suites of your code, be passionate about the value of automated testing
- Support robust automation of development, deployment, operation, and investigation of services
- Participate in and lead security investigations, performance testing, and troubleshooting
- Work with business and technology stakeholders to obtain requirements, define projects, and own the delivery of those projects
- Work along with the platform team including DevOps engineers to maintain high reliability during peak use, have a passion for monitoring, logging, and systems

Must-Have Qualifications:

- Strong experience with either C++, Go, or Python in a production environment
- 5+ years of professional software engineering experience
- Excellent developer familiarity with a major cloud platform such as Amazon AWS, Google Cloud, or Azure
- Experience creating horizontally scalable services
- Ability to prioritize and track multiple projects in parallel
- Passion for robotics and artificial intelligence

Desired Qualifications:

- Experience with machine learning or speech/NLP/image recognition systems provided by Amazon AWS, Google Cloud, Watson, or Azure/Bing.
- Experience with voice assistant technology such as Amazon's Alexa, or Google Home Assistant, or Microsoft Cortana.
- Knowledge of deep-network tools such as TensorFlow or Caffe.
- Experience with cloud tools such as Amazon EC2/ECS/S3/Redshift, DynamoDB, or MySQL.
- Experience managing security, load testing, logging of cloud services
- Experience with Docker/containers

Benefits:

- Competitive salaries, stock options and great benefits (health, subsidized public transportation costs, generous vacation)
- Great San Francisco office with lots of light and great views, convenient to every mode of mass transit – on wheels, on rails and on water
- Agile startup environment where you'll help shape the culture and have a huge impact
- Free catered lunches, snacks and drinks
- You get to work on innovative products and challenging problems with some amazingly talented (and fun) people!

URL:

<https://boards.greenhouse.io/anki/jobs/858134>

NLP - a subfield of computer science, information engineering, and artificial intelligence concerned with the interactions between computers and human (natural) languages, in particular how to program computers to process and analyze large amounts of natural language data.

(Source: https://en.wikipedia.org/wiki/Natural_language_processing)

Go - a statically typed, compiled programming language designed at Google by Robert Griesemer, Rob Pike, and Ken Thompson. Go is syntactically similar to C, but with the added benefits of memory safety, garbage collection, structural typing, and CSP-style concurrency.

(Source: [https://en.wikipedia.org/wiki/Go_\(programming_language\)](https://en.wikipedia.org/wiki/Go_(programming_language)))

Horizontally scalable services - The term *horizontally scalable* refers to systems whose capacity and throughput are increased by adding additional nodes. This is in distinction to *vertically scaled* systems, where adding capacity and throughput generally involves replacing smaller nodes with larger and more powerful ones. (Source:

https://lasr.cs.ucla.edu/classes/111_fall16/readings/horizontal.html)

TensorFlow - is an open-source software library for dataflow programming across a range of tasks. It is a symbolic math library, and is also used for machine learning applications such as neural networks. It is used for both research and production at Google. (Source:

<https://en.wikipedia.org/wiki/TensorFlow>)

Caffe - (Convolutional Architecture for Fast Feature Embedding) is a deep learning framework, originally developed at University of California, Berkeley. It is open source, under a BSD license. It is written in C++, with a Python interface. (Source:

[https://en.wikipedia.org/wiki/Caffe_\(software\)](https://en.wikipedia.org/wiki/Caffe_(software)))

EC2 - a central part of Amazon.com's cloud-computing platform, Amazon Web Services (AWS), by allowing users to rent virtual computers on which to run their own computer applications. (Source: https://en.wikipedia.org/wiki/Amazon_Elastic_Compute_Cloud)

ECS - an architectural pattern that is mostly used in game development. ECS follows the composition over inheritance principle that allows greater flexibility in defining entities where every object in a game's scene is an entity (e.g. enemies, bullets, vehicles, etc.). Every entity consists of one or more components which add behavior or functionality. (Source: <https://en.wikipedia.org/wiki/Entity-component-system>)

S3 - a "simple storage service" offered by Amazon Web Services (AWS) that provides object storage through a web service interface. Amazon S3 uses the same scalable storage infrastructure that Amazon.com uses to run its global e-commerce network. (Source: https://en.wikipedia.org/wiki/Amazon_S3)

Redshift - an application that adjusts the computer display's color temperature based upon the time of day. The program is free software, and is intended to reduce eye strain as well as insomnia. (Source: [https://en.wikipedia.org/wiki/Redshift_\(software\)](https://en.wikipedia.org/wiki/Redshift_(software)))

DynamoDB - a fully managed proprietary NoSQL database service that supports key-value and document data structures and is offered by Amazon.com as part of the Amazon Web Services portfolio. DynamoDB exposes a similar data model to and derives its name from Dynamo, but has a different underlying implementation. (Source: https://en.wikipedia.org/wiki/Amazon_DynamoDB)

MySQL. - an open source relational database management system (RDBMS). Its name is a combination of "My", the name of co-founder Michael Widenius's daughter, and "SQL", the abbreviation for Structured Query Language. (Source: <https://en.wikipedia.org/wiki/MySQL>)

Docker - a computer program that performs operating-system-level virtualization, also known as "containerization". It was first released in 2013 and is developed by Docker, Inc. (Source: https://en.wikipedia.org/wiki/Docker_%28software%29)