

Yasuyuki**KATAOKA** 

ML / AI Engineer

## Summary

Address Sunnyvale, CA, USA

> Tel +1 650 862 7820

Mail yk1002jp@icloud.com

# yk1002jp@gmail.com

## Personal Page

ykataoka.github.io /project.html /achievement.html /aboutme.html

## Git, LinkedIn

github.com/ykataoka linkedin.com/in/ykataoka

### Background

Data Science	Robotics

**Programming** 

C/C

Matlab

Mathe-

matica

Kafka

Spark

HTML CSS

JS.

SQL

My objective is to create applied machine intelligence for new user experience based on human understanding technology. My specialty is data science and applied Machine Learning engineering on time-series and heterogeneous data such as IoT sensors, natural language, vision and audio data. My background encompasses data science, control engineering, and hacker mentality. At NTT i<sup>3</sup>, I am leading all the data science projects: customer consultation, product ideation, data collection, analytics, and visualization.

## **Experience**

09/15 - Now ML / Al Engineer, Data Scientist NTT Innovation Institute, Inc., Palo Alto

Mission: Leading applied Machine Learning product/PoC development with customer - Tour de France: 1.rider's power prediction (62.2% error L), 2.catching the break prediction \*My ML models were deployed to production and visualized for audiences through media.

- IndyCar: 1.wearable data validation (Acc. 99.5%), 2.web UI for actionable insights
- Customer PoC: 1. anomaly detection for human security & proactive healthcare,
  - 2. driver and car telemetry data analytics for car behavior optimization

#### 04/11 - 08/15 Research Scientist

NTT R&D, Japan

*Mission*: R&D for human understanding and navigation

- Real-world activity understanding: 1.the knowledge base of real-world activities using social media & Linked Open Data, 2.service recommendation system using it
- Barrier free navigation: 1.barrier free map creation using smartphone data 2.wheel chair navigation system with 15 members team

# **Education**

Current	Ph.D.University of Tokyo, School of Eng.Research on Machine Learning application in human activity understanding
2008-2011	<b>Master's</b> (Valedictorian) Tokyo Institude of Technology, Mech.&Control System Eng. Research on nonlinear control theory to trirotor drone system
2009	<b>Exchange Program</b> University of Waterloo, Mechanical and Mechatronics Eng. Development of self-driving car for Robot Racing'09
2005-2008	Bachelor's (top 5%)Tokyo Institude of Technology, Control&System Eng.Excellent Student Award, Research on jumping-motion nonlinear control

## Skills

**Programming Language** python, C++/C, js/html/css, LaTeX, zsh

Data Science / Visualization

sklearn, tensorflow/keras, spark, kafka, node.js, d3.js, bokeh, grafana, mapbox, bootstrap, MySQL, influxDB, MongoDB, SPARQL, HiveQL

#### **Control / Robotics**

Matlab, MaTX, Mathematica, Maxima, Arduino

Languages Japanese ★★★★★ English \*\*\*\*

## **Certifications**

02/2018 Self-Driving Car Engineer Udacity, 1-year Nanodegree Program computer vision, deep learning, estimation, control for self-driving car

03/2018 **Deep Learning Specialization** deep learning implementation (CNN, RNN)

Coursera

### **Personal Skills**



## **Publications / Conferences**

#### Machine Learning

"Mining Muscle Use Data for Fatigue Reduction in IndyCar", MIT Sloan Sports Analytics Conference 2017 (SSAC'17), Mar.2017

"Extracting and Evaluating Ontologies of Human Activities from Linked Open Data and Sosial Media", Journal of the Japanese Society of Artificial Intelligence (JSAI), Jan.2016

*"Consumer Device Recommendation Method for web-based distributed browsing"*, The 2013 IEEE International Conference on ConsumerElectronics (ICCE'14), Jan.2014

"Service Discovery Method basedon User Intent", The 2013 IEEE/WIC/ACM International Conference on Web Intelligence (WI'13), Nov.2013

#### Robotics

"Circle Motion Control of Trirotor UAV via Discrete Output Zeroing Control", The 52th IEEE Conference on Decision and Control (CDC'13), Dec.2013

"Periodic Motion Control for Monorotor type Flying Robot at Non-equilibrium Point via Zero Dynamics Controller", IEEE SICE Annual Conference 2011 (SICE'11), Sep.2011

"Nonlinear Control and Model Analysis of TrirotorUAV Model", The 18th International Federation of Automatic Control World Congress (IFAC'11), Aug.2011

#### **Tech Talks**

"Real-time machine intelligence in IndyCar and Tour de France", Strata Data Conference in New York 2018, Sep.2018 (accepted)

+ more on https://ykataoka.github.io/achievement.html

### **Honors & Awards**

Sep'17	JetBlue Award in Travel Hackathon Emirates and Carnegie Mellon University travel cost optimization based on local event detection
Mar'17	Best Machine Learning Award in Prius Challenge Toyota Research Institute Data-driven control design(gear, throttle, brake, EV-mode) to maximize mpg
Dec'16	<b>CEO's Annual Recognition</b> NTT Innovation Institute, Inc.The most recognized employee in 2016 based on overall performance
Nev'16	<b>2nd Prize in HackSiliconValley</b> Mercedes-Benz R&D North America(Daimler) Battery prediction using IoT data towards smart EV fleet system
Feb&Mar'16	<b>1st Prizes in Mylan Hackathons</b> Mylan @Bangalore & @Pittsuburgh (twice)Two different proactive healthcare ML PoC using heterogenous data analytics
Nov'14	<b>Excellent Research Award</b> SIG Web Intelligence and Interaction Conf. Automatic creation of real-world activity knowledge base by social media
May'14	Research Activity AwardNTT Service Evolution LaboratoriesFor contribution in both domestic and international academic community
Mar'11	Valedictorian Tokyo Institute of Technology   at Mechanical and Control System Department Tokyo Institute of Technology
Dec'10	Japanese Delegate to SIYSS 2010The Japan Prize FoundationInvited to Nobel Prize ceremony, one of the 25 young scientists from the world.
Mar'09	<b>Excellent Student Award</b> Tokyo Institute of Technology For both course work and research achievement during bachelor's.
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OS Preference MacOS \*\*\*\* GNU/Linux \*\*\*\* Windows \*\*\*\*