# Ryuki Kobayashi

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## EDUCATION

**Texas A&M University**                                                                           **College Station, TX**
*Master of Computer Science* (GPA: 4.0/4.0)                                          Aug 2020−present
- Graduation anticipated in May 2022
- Relevant Coursework: Software Engineering; Analysis of Algorithms; Artificial Intelligence

**University of Tokyo**                                                                                         **Tokyo, Japan**
*Bachelor of Science*, Earth and Planetary Science (GPA: 3.2/4.0)              Apr 2010−Mar 2015
- Scholarship recipient (Students and Researchers Exchange Program in Sciences)

## TECHNICAL SKILLS

**Programming Languages**: Proficient in C#, Python, Ruby, HTML/CSS; familiar with C++, C, JavaScript

**Tools**: Unity, OpenCV, Microsoft Azure, UNet, Git, TensorFlow, React.js, Ruby on Rails, AWS, Unix

## PROJECTS

**PhD Admission System for Texas A&M University**                                   Aug 2020−Dec 2020
- developing and deploying a **RESTful** web application with **React.js** frontend and **Express** backend to allow faculties to record, modify, and review applicants' information on **Google Sheet**
- running **BDD** with **Capybara** over 100-plus tests, using the **Cucumber** tool to turn these stories into executable acceptance tests, and running the tests against the **SaaS** app
- automating the process of downloading applicants' files on the web and extracting data using regular expressions
- delivering log-in service with **Firebase authentication** to enhance data security

## PROFESSIONAL EXPERIENCE

**ILLUSION**                                                                                                           **Tokyo, Japan**
*Game studio focused on VR/AR software development, with annual sales of $8 million*     Aug 2017−Aug 2020
**Software Engineer (full time)**
- leader of five-member team
- developed the **VR Kanojo** series as a **Unity** engineer; the game generated more than $4 million in revenue
  - implemented a localization system utilizing **Google Sheet** and **CSV files**; utilized **AssetBundle** to save memory
  - constructed an object inertia system in **C#** to help in-game character to predict ball trajectory; utilized **linear algebra**
- led and released **TsunTsun VR** project on Steam; transmitted haptic feedback from virtual character via Bluetooth operating with bHaptics; more than 5,000 downloads
  - deployed multiplayer function via wireless **LAN** using **UNet**

**GOKURAKU INC (self-employed)**                                                              Feb 2019−Apr 2019
- designed a **real-time virtual reality viewer** for *360* movie for dual-fisheye camera with **Unity**
- mapped each pixel of image captured by the camera into dynamically created mesh in **C#**, rendered in real time
- used a video capture board to promote compatibility with **THETA S** by **WebCamTexture**

**TOKYO BROADCASTING SYSTEM TELEVISION, INC (self-employed)**             May 2018
- created **virtual reality training simulator** for *Sasuke* (TV sport show in Japan)
- developed for **HTC Vive** with **Unity** for *Sasuke* professional players, deploying hand tracking with **Leap Motion**
- implemented also for standalone devices (**Mirage Solo**, **VIVE Focus**)

**VALQUA LTD**                                                                                                      **Tokyo, Japan**
**Software Engineer in Overseas Business Improvement Division (full time)**      Apr 2016−July 2017
- analyzed factory workers' movement lane and cut labor costs by 40% utilizing **Python**; trained 100 employees

## AWARDS

**Tsukumo award** in Looking Glass Hackathon, sponsored by Unity Technologies              Apr 2019
- developed a holographic viewer for enjoying Japan's four beautiful seasons; released in Looking Glass Library
  - operating with **Xperia TOUCH** to enhance interactive experience

**GREE award** in Lunar Sports VR Hackathon, sponsored by JAXA                                May 2018
- developed a VR training simulator of Kendama (Japanese traditional toy) in a low gravity environment
  - utilized a **particle-based physics** engine to create realistic ropes
  - constructed a gravity model to change the behavior of the Kendama ball