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## EDUCATION & SKILLS

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**Stanford, CA** **Stanford University** **Expected September 2020**

- B.S. in Computer Science (AI), M.S. Candidate in Computer Science (Dual Track, HCI + Graphics)
- Minors in Linguistics. **Fluent in:** Korean, English, Japanese, Mandarin **Studying:** German **GPA:** 3.7 / 4.0
- **Relevant Coursework:** VR engineering, AI in Unreal Engine, Advanced Rendering Methods, Animation and Simulation with Houdini, CNNs for Computer Vision, AI Principles & Techniques, Natural Language Processing
- **TA:** EE103-Linear Algebra and Applications. **Stack:** C++, C#, Obj-C, Python, GLSL/HLSL, Java, React/Redux, etc

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## WORK EXPERIENCE

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**Software Engineer, Intern** **Google** **Summer 2017, 2018**

*Daydream, Unity Engineer*

- Integrated ML-backed drawing recognition tool AutoDraw into a Unity-based AR app.
  - Developed primarily through Unity, C#. Built communication pipeline with the AppEngine server and Python.
- UGC Motivation, iOS Engineer*
- Implemented new functionality on iOS Maps that encourages users to contribute with new types of media.
  - Primary development through Objective-C. Proposed and implemented several original design decisions.

**Interactive Engineer, Intern** **teamLab** **Spring-Summer 2018**

- Designed and engineered an interactive and narrative 3D scene that is projected onto a real-life Boeing plane exhibit in Nagoya, Japan. Developed mostly in Unity with HLSL for the shaders.
- Involved heavy usage of GPGPU, noise algorithms and raymarching for generative procedural graphics.

**Mobile Engineer, UI/UX Designer** **Finesse** **Spring 2019**

- Took full control over designing and iterating UI/UX prototypes in Figma for a mobile e-commerce platform.
- Built the backbone and front-end of a fully functional app in React Native from scratch.

**R&D Intern** **Korbit** **Summer 2016**

- Developed a decentralized Ether exchange platform on the blockchain using Ethereum and its Solidity language for Smart Contract functionality.
- Redux + React framework was used for the web application.

**Research Assistant** **Stanford Robotics Lab** **March 2015 - June 2016**

- Designed and led a Haptic fMRI Interface (HFI)-compatible motion experiment to analyze the translation of low-dimensional task control signals in the brain to high-dimensional physical muscle coordination.
- Experiment developed using C++, MATLAB, Python, and the Haptic Chai library.

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## OTHER PROJECTS

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- **Portfolio Page** (2014-2019): [www.jiheehwang.com](http://www.jiheehwang.com). React → Wordpress. My personal projects live here.
- **Poi Party** (PC/Mac, 2019): An interactive music sequencer built with Unity and Chuck, a language for algorithmic audio generation. Users can interact with AI-controlled agents that generate music through interaction with other agents.
- **Falcon City** (PC/Mac, 2016): A 3-DOF haptic device Novint Falcon-compatible Unity experience. Generated 3 different haptic textures with C#, works with any VR device including a custom-made VR headset.
- **Fractal Trip** (PC/Mac, 2016): An Oculus and Myo-compatible music visualizer involving procedural fractal generation and interactive audio manipulation from hand gestures. Unity + C#.
- **Infant Statistical Learning Model** (2017): Modeled infants' statistical learning in lexical acquisition through AI methods. From several recordings of words in three different languages, the model was able to reconstruct words given syllable audio files.