# YIDUO KE

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## EDUCATION

**Cornell University** *B.S. in Computer Science (GPA: 3.8)* *class of 2021*

Object-Oriented Programming and Data Structures ⋄ Introduction to Analysis of Algorithms ⋄ Functional Programming in OCaml ⋄ Machine Learning ⋄ Computer Vision ⋄ Artificial Intelligence ⋄ Introduction to Computational Complexity ⋄ Probability Models and Interference ⋄ Linear Algebra ⋄ Discrete Mathematics

**Stuyvesant High School** *High School Diploma* *2014 - 2018*

Computer Graphics ⋄ Systems Level Programming ⋄ Software Development ⋄ AP Computer Science

## WORK EXPERIENCE

**Teaching Assistant** *January 2020 - present*
*Cornell University CIS Department* *Ithaca, NY*
- Holding office hours to assist students in understanding course material and do homework
- Answering students' Piazza questions regarding course material
- Attending grading sessions to grade students' assignments and exams

**Undergraduate Researcher** *February 2020 - present*
*Cornell University CIS Department* *Ithaca, NY*
- Researching semi-autonomous to fully-autonomous image processing and machine learning methods to identify cell features indicative of centrosome amplification

**IT Intern** *July 2019 - August 2019*
*NYC Department of Health and Mental Hygiene* *Queens, NY*
- Re-imaged PCs and upgraded their operating systems
- Deployed PCs

## TECHNICAL PROJECTS

**Enigma Machine** *https://github.com/yiduoke/Enigma-Machine*
- Implemented the Enigma Machine in OCaml
- Supports all features of the actual Enigma machine (rotor, reflector, plugboard, stepping, ciphering, deciphering)

**Linux Shell** *https://github.com/yiduoke/Systems-Project-01*
- Developed a bash shell very similar to the Linux Ubuntu shell that executes user commands
- Implemented in the C language

**Graphics Engine** *https://github.com/yiduoke/13Graphics-friday*
- Built a graphics engine that displays and animates 3D shapes and objects
- Reads mesh files to generate GIFs
- Supports various types of shading (flat, Phong, Gouraud)

## TECHNICAL SKILLS

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|---|---|
| **Languages** | Python, Octave, OCaml, Java, C, C++ |
| **Front-end skills** | HTML/CSS/Bootstrap, JavaScript/jQuery/D3.js |
| **Back-end frameworks** | Flask |
| **Databases** | MySQL/SQLite/MongoDB |
| **Tools** | Git, Linux(Ubuntu) |

## LANGUAGES

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|---|---|
| **English** | native |
| **Chinese (Mandarin)** | native |
| **German** | intermediate |