

# Nicklaus Choo

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## EDUCATION

**CARNEGIE MELLON UNIVERSITY, PITTSBURGH, PA, USA**  
Major Bachelor of Science in Computer Science

Expected Graduation **May 2022**  
Cumulative GPA **3.50**

## WORK EXPERIENCE

**ZODAJ** | Software Engineer Intern • **USA (remote)**

**May 2020 - Aug 2020**

- Implemented Markov chains, graph algorithms, and databases for COVID-19 contact tracing in Senegal
- Directed and implemented all permissions and roles within ZODAJ for Amazon S3 database access

**BOSCH ASEAN** | Linux Systems Engineer Intern (DevOps) • **Singapore**

**May 2019 - Aug 2019**

- Enabled Jenkins server to run 2 ISO builds in parallel (1 executor, 2 slaves) for testing via dynamic port allocation
- Automated mounting of QEMU disk on Jenkins server for log extraction to significantly reduce debugging time
- Modified Jenkins pipeline to reduce deployment testing from 20 mins to 1 min, and automated unit tests
- Designed and developed intuitive searchable user-interface for .ISO downloads

**EYEOTA PTE LTD** | Data Analytics Intern • **Singapore**

**Dec 2017 - May 2018**

- Programmed data cleaning and classification of advertiser and buyer data from programmatic buy-side platforms
- Extracted advertiser behavioral trends such as target demographics via both web-scraping and buyers' purchasing data
- Streamlined updates of daily, weekly, and monthly audience data sales revenue via complete process automation

**SINGAPORE ARMED FORCES** | Platoon Sergeant, Transport Formation • **Singapore**

**Jan 2016 - Nov 2017**

- Proactively automated human resource accounting and daily vehicle accounting (available, under repairs, loaned out, on missions) of over 20 vehicle types and 400 individual units. This improved count time from 45 mins to 5 mins.

**A\*STAR SIMTECH RESEARCH** | Machine Learning Research Intern • **Singapore**

**Jun 2014 - Dec 2014**

- Selected as 6 of 1,140 students in my high school, Hwa Chong Institution, for a machine learning research internship
- Utilized k-means clustering, partial least squares regression, extreme learning machine, and multiple linear regression to predict ink cartridge lifespans with industry standard of > 97% accuracy, thus eliminating destructive batch-testing.

## TECHNICAL KNOWLEDGE

### PROGRAMMING LANGUAGES

C | C++ | Bash | Python | Java | SML | HTML | CSS | JavaScript

### TOOLS

- Ansible - server configuration, OS initial startup configuration
- AWS - PostgreSQL, Amazon Neptune set-up, deployment
- Docker - containerized OS build testing
- Jenkins - continuous feature/pipeline testing and deployment

### FRAMEWORKS

- Front-end- .ISO download UI, log reporting/warnings
- Back-end - pipeline optimization for .ISO builds
- Agile - tri-weekly sprint, daily SCRUM

### SELECTED TECHNICAL COURSEWORK

- 10-701 Introduction to Machine Learning (PhD)
- 15-210 Parallel and Sequential Data Structures and Algorithms
- 15-251 Great Ideas in Theoretical Computer Science
- 15-213 Introduction to Computer Systems
- 15-411 Compiler Design
- 15-455 Undergraduate Complexity Theory
- 15-259 Probability and Computing
- 15-260 Statistics and Computing

## INDIVIDUAL PROJECTS

### SHEET MUSIC ASSISTANT

- Created Python application built in TkInter utilizing optical and audio recognition to read sheet music PDFs, playback, display and automatically flip pages for musicians during live performance

### CUSTOM CRM SOLUTION

- Designed and implemented SQL-based CRM system for Windows with intuitive GUI for Small Medium Enterprises to use

## EXTRA-CURRICULARS

- **Course Tutor (Spring 2020)** 15-251 Great Ideas in Theoretical Computer Science