

# Karen Kong

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## Skills

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C/C++, Java, Python

Git, Vim, Android Studio, Graph Theory

## Work Experience

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### Facebook University Software Engineering Intern

Menlo Park, CA

FACEBOOK

Summer 2017

- Developed an Android application in a team of 3 for Facebook friends with opposing views to chat anonymously.
- Android Studio with Java and XML, Facebook Graph API, and NY Times News API used on the frontend and Firebase on the backend.

### Research Assistant

Riverside, CA

EMBEDDED SYSTEMS LAB

January 2016 - June 2017

- Construct graph algorithms in C++ for microfluidic chip design automation.
- Created 4 planar graph algorithms to expand point placement from Chrobak-Payne Straight Line Routing Algorithm to account for areas of components at the points. Increased area utilization by 23%.
- Programmed post-processor that reduces corners on routes to diagonals. Reduced route length by 16%.

### Intern

Riverside, CA

zyBooks

December 2016 - June 2017

- Review and revise Computer Science educational content for online learning portal.
- Generate alternative text in XML for improving interactive activity accessibility.

### NSF REU

Riverside, CA

EMBEDDED SYSTEMS LAB

Summer 2016

- Implemented directed placer algorithm that increased area utilization by 24% and decreased route length by 94%.
- Applied seam carving to post-processing algorithm that increased area utilization by 33% and decreased route length by 15%.

## Projects

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### De-Classify

Java

SOFTWARE ENGINEERING COURSE

Android

- Students post, view, and rate anonymous feedback about their professors.
- Implemented front end UI and callbacks for create reviews, view reviews, professor summary, professor search, and settings activities.
- Retrofit, Butterknife, EventBus, AdMob, and Iconify libraries used in frontend.

### Grid Routing Framework

C++

INDEPENDENT PROJECT

Linux

- Implemented Lee's Routing Algorithm, a breadth first search, on a 2D grid.
- Turn reduction optimization to increase amount of straight routes.
- Multiple route handling feature with route overlap prevention.

### Parkbnb

Java

1ST PLACE AT CUTIE HACK 2017

Android

- Users list their unused garage and extra parking spaces and book the listings.
- Developed map with markers to display listing locations and reserve listing activities.
- Firebase, Google Maps API, Butterknife libraries used in frontend.

## Education

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Computer Science B.S. + M.S.

3.98 GPA

UNIVERSITY OF CALIFORNIA, RIVERSIDE

June 2019