

# Karen Kong

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## EDUCATION

### UNIVERSITY OF CALIFORNIA, RIVERSIDE

COMPUTER SCIENCE  
June 2018 | GPA: 3.98

#### COURSEWORK

Operating Systems  
Research Design Project  
Software Engineering  
Data Structures & Algorithms  
C++ Object Oriented Programming  
**IN PROGRESS**  
Mobile Wireless Networking  
Automata and Formal Languages

## TECHNICAL SKILLS

### LANGUAGES

C++ • Java • Python • C

### SOFTWARE

Git • VIM • Android Studio • Visual Studio

## LEADERSHIP & ACTIVITIES

UC Student Congress Delegate  
Bourns College of Engineering Day Organizer  
Computer Club President (2014-2015)  
Assn. for Computing Machinery (ACM)  
Society of Women Engineers (SWE)

## AWARDS

Entertainment Software Association  
Computer & Video Game Scholarship  
(2015, 2016)  
SWE Admiral Grace Murray Hopper  
Scholarship (2015)  
SoCal National Center for Women &  
Informational Technology Award for  
Aspirations in Computing (2015)

## EXPERIENCE

### RESEARCH ASSISTANT | EMBEDDED SYSTEMS LAB

January 2016 - present | Riverside, CA

- Four planar graph algorithms expanding point placement from Chrobak-Payne Straight Line Routing Algorithm to account for areas of components at the points. Increased area utilization by 23%.
- Post-processor that reduces corners on routes to diagonals. Reduced route length by 16%.

### INTERNSHIP | zyBooks

December 2016 - present | Riverside, CA

- Provide technical support services for instructors and students.
- Reviews and revisions of CS educational content for online publication.
- Alternative text translations in XML of interactive activities for the blind.

### NSF REU INTERNSHIP | EMBEDDED SYSTEMS LAB

June 2016 - September 2016 | Riverside, CA

- Directed placer algorithm for microfluidic chip design automation that increased area utilization by 35%.
- Seam carving post-processing algorithm that increased area utilization by 33% and decreased route length by 15%.
- Straight path priority, component buffer enforcement, and port assignment optimizations for routing algorithm.
- Resulted in publication submitted to the Asia and South Pacific Design Automation Conference.

## PROJECTS

### DE-CLASSIFY | SOFTWARE ENGINEERING

Java | Android

- Students can 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.

### GRID ROUTING FRAMEWORK

C++ | 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.

### WALK IN THEIR SHOES | GRAND PRIZE AT THE 2016 SAN DIEGO WOMEN'S HACKATHON

Java | Android

- Pairs refugees to donors that can provide resources and a forum to communicate with available donors in response to the global refugee crisis.
- Android Studio and Butter Knife libraries used to bind views to the UI.