Karen Kong

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Skills

C/C++, Java, Python

Git, VIM, Android Studio, Graph Theory, Mobile Networks, Operating Systems

Work Experience

Software Engineering Intern
Facebook

Menlo Park, CA
Summer 2017

- Android Application Development on Facebook University for Engineers team.

Research Assistant
Embedded Systems Lab

Riverside, CA
January 2016 - present

- 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
zyBooks

Riverside, CA
December 2016 - present

- Provide technical support services for instructors and students.
- Review and revise Computer Science educational content for online learning website.
- Generate alternative text in XML for improving interactive activity accessibility.

NSF REU
Embedded Systems Lab

Riverside, CA
June 2016 – September 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%.
- Added straight path priority, component buffer enforcement, and port assignment optimizations to routing algorithm.

Projects

De-Classify
Software Engineering Course

Java
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 front end.

Grid Routing Framework
Independent Project

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.

Parkbnb
1st Place at Cutie Hack 2017

Java
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 front end.

Education

Computer Science B.S. + M.S.
University of California, Riverside

3.98 GPA
June 2019