

# Wangjing (Jing) Ke

kwangjing@gmail.com | 520-360-8048 | wangjingke.com

## PROFESSIONAL SUMMARY

- “Big data” analyst with extensive programming experience in R, SAS, Python, Java, Javascript, and MySQL
- In-depth hands-on knowledge of large-scale experimentation, statistical modeling, and machine learning
- Quick learner with strong communication and teamwork skills

## EDUCATION

### University of Southern California

M.S. Biostatistics, GPA: 3.86/4.0

Ph.D Student in Epidemiology

May 2016

Aug 2013 - Dec 2015

### University of Arizona

MPH Epidemiology, GPA: 3.92/4.0

B.S. Biology, GPA: 3.90/4.0, *Summa Cum Laude*, *Phi Beta Kappa* inducted

May 2013

May 2011

## WORK EXPERIENCE

### Department of Preventive Medicine, USC

Los Angeles, CA

#### Data Management Coordinator

Jan 2016 - present

Provided 40+ researchers with analytic insights, database management, and presentation of statistical results for publication

- Built and administered SQL databases for multiple research projects
- Delivered analytic solutions to research using streaming data from mobile apps and wearable sensors and devices
  - Performed longitudinal multivariate analyses on human health behaviors in R and SAS
  - Designed dashboards for results visualization in R (ggplot2, Shiny), and Tableau
- Created database driven web interfaces using Javascript, PHP, and MySQL, enabling “point-and-click” automation of data retrieval, analysis, and visualization, to:
  - Connect to Google Firebase to access data collected from mobile apps
  - Calculate and track participant compliance rates of randomly prompted surveys on their mobile phones
  - Update the participant status for follow-up appointments and data collection
- Developed software packages for data collection and management, and statistical analysis, such as:
  - *madresGPS*, an Android app to record AES encrypted geolocations in customizable time intervals
  - R package to harmonize month-long repeated time-series behavioral, dietary and biometric measurements on 400 people
  - Python module to process minute-by-minute physical activity data from ActiGraph and activPal accelerometers, generating summary statistics, establishing activity patterns, and inserting outputs into MySQL databases
  - Java application to manage and decrypt electronic survey data generated by mobile apps

### Norris Cancer Center, USC

Los Angeles, CA

#### Research Assistant

Aug 2013 – Dec 2015

Designed statistical analysis plans and used human genomic data to predict heart disease risks

- Developed algorithms predicting heart disease propensity in 250,000 people using their medical records and insurance claims.
- Running logistic regressions, A/B testing to determine how multiple demographic and contextual variables (e.g. age, gender, ethnicity, smoking, and drinking) affect the likelihood of heart disease
- Used machine learning techniques to search candidate genes across the entire human genome that caused heart disease
  - Managed > 20 TB whole genome sequencing data on over 20,000 people in MySQL, and conducted quality control procedures in R
  - Performed principal component analysis to reduce data dimensions, and control for correlation in genetic backgrounds
  - Developed k-nearest neighbor algorithms to scan through 40 million DNA mutations, and identified more than 70 heart disease related genes

### University of Arizona

Tucson, AZ

#### Research/Teaching Assistant

Aug 2011 – May 2013

## EXPERTISE

Certificates: SAS Certified Base/Advanced Programmer

Programming: R, SAS, Tableau, Python, Java, Javascript, PHP, MySQL, Hadoop, GNU/Linux

Specialties: Big data analysis, machine learning, data mining, high performance computing, experimental design, predictive modeling, high-dimensional/spatial/longitudinal/survival/nonparametric analyses, linear/logistic regression, statistical analysis plans, statistical review & quality control, data quality review

## PERSONAL

Languages: English, Mandarin Chinese

Hobbies: Skiing, fishing, watching basketball, and making drinks (certified by the Tucson Bartending Academy)