Ernest Chan

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EDUCATION

Rice University - Houston, TX   08/2011 - Present
- Masters in Electrical Engineering, Data Science specialization. Expected: Dec, 2016.
- BS in Electrical Engineering, 2015. GPA: 3.78. IEEE-HKN Honor Society. President's Honor Roll.
- Coursework: artificial intelligence, probabilistic graphical models, probability and random processes, computer vision, advanced object-oriented programming, embedded systems, algorithms.
- Programming skills: Matlab, Python, Java, C, Arduino, Assembly.

PROJECTS

Exercise Classification Fitness Band   08/2015 - 09/2016
- Implemented hidden Markov model to classify gym exercises using time-series data from wrist-worn accelerometer and gyroscope. Algorithm currently works offline for 5 exercises, and achieves classification and rep-counting accuracy of 96% on unseen test data.

Capstone Design (Team Project)   08/2014 - 05/2015
- Prototyped Arduino-based module for a heart-failure treatment pump. Module integrates control algorithms for the pump, BLE communication with a smartphone, UART communication, and a local database. Featured on Texas Medical Center news. Worked with a venture-backed start-up.

Signals and Systems Course Project (Team Project)   11/2013
- Used wavelet transform and DSP techniques to extract features from EKG signals and detect peaks.

WORK EXPERIENCE

HKC Solutions: *Engineering Intern* - Hong Kong   07/2015 - 08/2015
- Designed and implemented a clustering-based anomaly detection system for elderly apartments. Tested algorithms include k-means and gaussian mixture models.
- Collaborated with management to pitch the system to Singaporean housing officials.

Jelec USA: *Engineering Intern* - Houston, TX   06/2014 - 08/2014
- Performed load analysis and power cable calculations for oil-rigs to determine power distribution system design. Reported directly to the CEO and president of company and collaborated on projects.

Village Innovators: *Chief Operations Officer* - Houston, TX   01/2013 - 12/2013
- Launched non-profit that teaches African students how to build sustainable technologies. Accepted into Rice University's start-up accelerator. Pitched to angel investors. Shaped business strategy.
- Led the design of teaching modules used in a Kenyan village to build a working wind turbine.

PCCW: *User Experience Intern* - Hong Kong   06/2012 - 08/2012
- Wire-framed and designed user interface for a fitness tracking Android mobile app. Created interactive demo and iterated design with management. Conducted competitor analysis.

ADDITIONAL INFORMATION
- **Signals and systems course assistant**: Held weekly review sessions for this junior level course.
- **Extensive student government experience**: Residential college co-treasurer ($50,000 budget); student association new student representative; high school student council president.
- **Online course instructor**: Created dance course on Udemy.com with 270+ students.