Randy Ardywibowo

302 Ball St Apt K108, College Station, TX, 77840 • (661) 863-8472
randyardywibowo@tamu.edu • people.tamu.edu/~randyardywibowo

EDUCATION

Texas A&M University — **College Station, TX**
Ph.D. in Electrical Engineering, **GPA:** – — May, 2022

Texas A&M University — **College Station, TX**
B.Sc. in Electrical Engineering Minor in Mathematics, **GPA: 4.0/4.0** — May, 2017

RESEARCH EXPERIENCE

Research Assistant in the ECE Genomic Signal Processing (GSP) Lab — January 2016 – Present
Supervisor: Dr. Xiaoning Qian

- Developed a Switching-state Autoregressive (SAR) model to predict body weight from health behavioral data. The model simultaneously estimates missing values detects outliers during training.
- Implemented body weight control/intervention using Reinforcement Learning (RL) with Gaussian Processes (GP).
- Implemented regression methods through Functional Principal Component Analysis (FPCA) and PACE.
- Current Interests: Causal Structure Learning, Non-Markovian Dynamics, Boolean Dynamical Gene Regulation.

Undergraduate Researcher, Autonomous Building Lighting Assessment — September 2015 – May 2016
Supervisor: Dr. Bryan Rasmussen

- Developed a tele-operated robot that can automatically map a building and identify lights in it.
- Implemented light detection algorithm with OpenCV blob detection.
- Developed a 3D light location finding algorithm to project 2D points in an image into 3D space.
- Implemented Simultaneous Localization and Mapping (SLAM) with HectorSLAM.

Undergraduate Researcher/REU Mentor, AerialAR — September 2014 – September 2015
Supervisor: Dr. Robin Murphy

- Continued development of AerialAR, an augmented reality program for controlling emergency responder drones.
- Programmed sketch recognition to detect the GPS coordinates and building names in a user selected area.
- Interfaced with Google Places API in Objective-C, iOS.
- Taught app development, 3D geometry, and robot position and orientation reconciliation.

FREELANCE WORK

Web App Developer (frankstanford.com) — May – August 2017

- Created a Content Management System (CMS) on the Meteor framework.
- Developed entire frontend using primarily Angular and Material Design.
- Developed entire backend using primarily MongoDB and RxJS. Deployed using NginX on Digital Ocean.

iOS App Developer, MasjidPay — January – June 2016

- Programmed mobile user interfaces, registration system, interaction with a web API. Developed database in MongoDB.
- Implemented user password security and recovery using SHA2 + salt encryption, and password strength checker.

SKILLS

Modeling: Dynamic Bayesian Networks (**DBN**), Structure Learning, Kernel Support Vector Machines (**SVM**), Gaussian Process (**GP**).

Regularization: LASSO, PCA, Functional PCA (**FPCA**).
Control: Markov Decision Process (**MDP**), Reinforcement Learning (**RL**).

PROGRAMMING

Object-oriented: C++, C, Objective-C.
Math: MATLAB, R, Python, Mathematica, Maple.

Web: Angular, Sass, Javascript, Typescript, MongoDB, RxJS, Node.js, Meteor.