# Se Un Kim

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## Education

**California State University, Long Beach** **August 2014 – December 2018**
Bachelor of Science in Computer Science

- GPA : 3.655/4.000
- Strong Computer Languages: Java, Python, Javascript, C#, XML, NoSQL, HTML, CSS, Git, Bash
- Intermediate Computer Languages: C++, SQL
- Environment Experience: Keras, AWS, Google Cloud, Node.js, Android Studio, Xamarin, Linux, Github, Mongo, VS

## Experience

**Lead Machine Learning Research Assistant** **May 2018 - Current**
California State University, Long Beach

- Achieved an anomaly detection rate of 99.6% on 1553-Bus command data using a custom Minimum Scoring Graph algorithm that utilizes Markov Chains, Transitional Matrices, and the training of a winsorized limit hyperparameter
- Implementing LSTM's, 1-Dimensional CNN's, and Kalman Filters to create an Adaptive Neural Network for Bit-Wise Data Anomaly Detection on the 1553-Bus

## Projects

**Object Detection and Classification of Ships in Satellite Images**
https://github.com/PenguinDan/DeepLearningShipDetection

- Used Keras, OpenCV, and various Python APIs to correctly detect and classify ships in large satellite images using a Convolutional Neural Network in conjunction with a custom object detection algorithm
- In comparison to the top approach in Kaggle.com that utilizes a sliding window across the entire image to inaccurately detect ships within 15 minutes, our project pipeline is able to accurately detect and output bounding boxes in less than 5 seconds

**Senior Project: Astral Framework and Phylo Proof of Concept Android Application**
https://github.com/Doliveraa/RedPony

- Created an open source framework that allows developers to quickly and efficiently create file-sharing applications with strict location, temporal, and authorization restrictions using Node.js, JS, Python, Mongo, and an AWS Linux instance
- Created a proof of concept Android application that utilizes the Astral Framework's API to create user and location restricted "rooms" where users can drop files with strict temporal restrictions using Java, XML, and Android Studio
- Utilized cryptographically strong user authentication methods such as SRP, SSL communication, and Bcrypt for user information storage

**Ransomware Application**
https://github.com/DanDan-AdamFlores/Ransomware

- Created a recursive cryptographically strong file encryption program built with Python and utilizing concepts such as RSA, HMAC, and AES-CBC that communicates with a live Node.js server implementing SSL and a RESTful API

## Awards/ Extracurricular

**Machine Intelligence and Information Processing Systems**
California State University, Long Beach

- Participate and receive critical guidance under Dr. Wenlu Zhang with the objective of increasing my Machine Learning skills and knowledge

**Member of Tau Beta Pi Honor Society**
California State University, Long Beach

- Became a member by ranking in the top eighth of the engineering junior class

**President's Honor List**
California State University, Long Beach

- Completed a total of 58 units with an average GPA of 3.95 within 4 consecutive semesters

## Links

**Personal Website:** https://www.penguindan.com
**Linked-In:** https://www.linkedin.com/in/se-un-kim
**Github:** https://www.github.com/PenguinDan