**ERIC CHHEANG**

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EDUCATION

University of Kentucky *|* Lexington KY **Expected Grad:** May 2020

B.S. Computer Science| Minor in Mathematics Coursework: Calculus I-IV, Statistics, Algorithms Design/Analysis, Database System, Networking, Intro to AI, Machine Learning, Optimization

EXPERIENCES

**Machine Learning Engineer Intern** | Riverside Research | Dayton, OH May 2019 – Aug 2019

* Researched and implemented various feature extractors (MobileNet, InceptionV3) and object detection algorithms (SSD, YOLO) with satellite image datasets. S
* Wrote Python scripts to pre-process and manipulate images for object-orientation prediction. The script created a user-controlled angle detector that outputs each images’ orientation angle which gave the ability to generate additional datasets and improved network accuracy.
* Explored methods to improve the security of machine learning models against adversarial examples such as adversarial training, defensive distillation, and synthetic data generation with domain randomization.

**Research Assistant** | University of Kentucky Sept 2018 – May 2019

* Collaborated with local and remote Graduate students in creating a reliable communication application for post-disaster communities.
* Led the project of implementing a novel routing algorithm to improve ad-hoc network performance of an Android app with Java.
* Improved network longevity by ~50% over current routing protocols in disaster scenarios by integrating a cluster-based topological routing system for connection topology and enhancing the message priority system.

**Data Analyst** | University of Kentucky Healthcare Nov 2018 – April 2019

* Completed many analytics research projects in an agile scrum team and piloted intake-meetings for insights into medical research.
* Conducted discovery of various data sources by querying healthcare-databases with SQL and Netezza to present with Tableau.

PROJECTS

Music Streaming Website | Personal **In-Progress**

* Developing a website with music streaming capabilities using PHP, JavaScript, and MySQL. The site currently contains features such as user log-in and registration using a local Apache Web Server and MySQL databases.
* The site will add music streaming, song and artist search, lyric generation, and additional features while focusing on the Cambodian market.

Crash Scene Recreation | Capstone Project **In-Progress**

* Collaborating in a team to complete a client project that provides software specialization in computer aided design for crash and crime scene recreation, storage of captured data, and providing access to select users.
* My role is converting and updating an existing cloud-based database into a secure local database that links mobile to desktop applications. Also tasked with adding robust security and privacy features against unauthorized use.

Smart Email Generator | Purdue University Hackathon 2018

* Developed a python Bot that utilizes speech-to-text and conversation GUI to generate a professionally written email based on user speech.

Google Home Medical Bot | University of Tennessee Hackathon 2018 – Best Presentation

* Designed a chatbot for medical scenarios and implemented a state-machine via Google’s DiaglogFlow APIs for Medical Students.

First-Author Paper | Microbiology Resource Announcement (In-process of submission)

* Discovered over 12,000 novel genes of rice-blast pathogen, Pyricularia Oryzae using various Linux-based bioinformatics software tools.

Hypertension Prediction **|** Personal

* Handled the entire process of research, data collection, pre-processing, network architecture design, regularization methods, and tuning hyper-parameters to achieve desired complexity, performance, and robustness for hypertension prediction of patients.

TECHNICAL SKILLS

**Languages**: Python, C++, SQL, PHP, JavaScript, Java, R, HTML, CSS

**General**: Linux, Git, MySQL, Computer Vision, Tableau, Agile Methodologies

**Machine Learning**: Keras, Sklearn, TensorFlow