# Hui (Henry) Chen

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## Education

**New York City, NY** **New York Institute of Technology** **2018 – Exp. May 2022**

- **Major:** Computer Science, B.S
- **Candidate for Accelerated Master Program:** Data Science, M.S
- **Relevant Coursework:** Data Structure & Algorithm, Operating System, Information Retrieval, Introduction to Big Data
- **Involvement:** Tech Lead, Developer Student Club

## Employment

**Full-Stack Web Developer, Intern** **SkyMobile Inc (startup)** **Aug 2019 – Mar 2020**

- Improved website SQL injection vulnerabilities by implementing server-side script through PHP OOP
- Implemented secure payment system for online shopping for 200+ clients across NYC by utilizing Stripe API
- Reduced website latency by 10% by configuring DNS records and intergrading with Cloudflare DNS
- Redesigned 1k+ records relational database based on business needs
- Leveraged knowledge in Git, Bootstrap UI, jQuery, Apache Server, MySQL, programmed in PHP using WebStorm IDE, HTML5, CSS3, Ajax, jQuery, Apache JMeter, cPanel and structured project in MVC

**Full-Stack Web Developer, Vol** **The Artists Forum Inc** **May 2019 – Sep 2019**

- Led a team of two developers to redesign existing website that has 1k+ clients for cross device responsive
- Transformed all existing server data to a new server, and reconfigured server production environment
- Implemented email system for administrator and web master by utilizing PHPMailer and SocketLab API
- Reduced website latency by 12% by configuring DNS records and intergrading with Cloudflare DNS
- Leveraged knowledge in Git, Bootstrap UI, Apache Server, programmed in PHP using WebStorm IDE, HTML5, CSS3, Ajax, jQuery, Apache JMeter, cPanel, and structured project in MVC

## Technical Projects

**Personal Website:** hchen.github.io (for additional information and projects)

**Cross-Platform Scholarship Recommendation App**

- Created a cross-platform app using React Native and Python that allows clients to easily create their profile and get recommended scholarships
- Implemented web-scraping for scraping 2.7m scholarship data by using selenium with real-time login
- Designed RESTful API backend server enabling integration of React Native and recommendation model
- Utilized Google Authentication and Firestore API to build user role control module
- Configured project production environment and deployed recommendation model, RESTful API, and web-scraping application in AWS EC2
- Utilized: React Native, Git, Python, JavaScript, Firestore, Selenium, AWS EC2, Flask, RESTful

**Big Data: MR Movie**

- Implemented a movie recommendation model using Cosine Similarity and Spark through the user ratings
- Analyzed and interpreted recommendation model result by comparing different threshold and co-occurrence threshold value
- Utilized: Git, Python, Apache Spark, Hortonworks Sandbox, shell script, numpy

**Linear Regression: Airbnb Open Data (NYC)**

- Built linear regression models for Airbnb price prediction by computing all or without all other features
- Created an interaction density map for the data visualization and analysis through Folium
- Established feature correlational matrix and importance graph for the data preprocessing
- Evaluated and interpreted models' prediction result with an MAE of 39%, R2 score of 41%, and RMSE
- Utilized: Git, Python, scikit-learn, linear regression, Folium, seaborn, Jupyter Notebook, Scipy, pandas, numpy, matplotlib, RapidMiner Studio

**Autonomous RC Car + Virtual Driving**

- Utilized PCA servo driver and Raspberry Pi to control RC car steering speed by integrating Donkey Car API
- Showcased the project and result at NYIT Ventures' Pitch Contest to faculty and students
- Collected image data by remotely controlling RC car by wirelessly displaying and operating the camera FOV and direction
- Trained a supervised classification CNN autopilot model with 11 layers by using image data with Keras for generating hierarchical file that contains steering and throttle value
- Utilized: PCA 9685 Driver, Raspberry Pi, Arduino, Python, Keras, TensorFlow, Donkey Car, Flask, 3D Printer

## Skills

**Software:** Java, Python, SQL, PHP, PySpark, Hadoop, selenium, AWS EC2, Git, React Native, MySQL, Firebase