

Derek Hu

derekhu1996@gmail.com | (408) 504-3550 | github.com/dehu11

EXPERIENCE

Associate Software Engineer

Capital One, San Francisco, CA

Aug 2019 - Present

- Developed A/B and multi-armed bandit tests for the Capital One homepage increasing booking rates by 16% and generating an estimated \$2M in less than 3 weeks
- Maintain Capital One homepage building, enhancing, and unit testing page components and services with Angular and Jest
- Develop programs to automate common processes and validations utilizing Python scripts, Selenium, AWS, and other tools

Technical Engineering Intern

Synopsys, San Francisco, CA

Jul 2017 - Sep 2017, Oct 2017 - Oct 2018

- Accelerated case turnaround time on a global scale by supervising technical support cases in Salesforce
- Extended support for Synopsys products, troubleshooting issues and processing fulfillments
- Improved products by analyzing root causes of issues, reporting, and tracking them in Bugzilla and Jira
- Formalized support processes and training through internal Confluence articles

Front-End Developer

Auxillium West HRnetSource, Cupertino, CA

May 2015 - Jun 2016, Sep 2016 - Jul 2017

- Designed company website using HTML5, PHP, CSS, and JavaScript (auxillium.com) to enhance user experience
- Amplified online presence using Google Analytics, MailChimp, Hootsuite, and WordPress

R&D Technical Intern

Synopsys, Mountain View, CA

Jun 2016 - Sep 2016

- Improved quality assurance for licensing software by building test scripts using C++, Tcl
 - Developed robust testing covering various edge cases using regular expressions
 - Analyzed other projects to build from existing internal code and incorporate them into new works
-

PROJECTS

YelpCamp

- Web application that allows users to post and review websites, persistent data storage with MongoDB
- RESTful web app with CRUD capabilities on posts and comments to respective users using Node.js with Express
- Includes user authentication using Passport, flash message middleware with connect-flash

Decision Tree Classifier

- Created a Python decision tree following the ID3 algorithm that could classify banknote authenticity and office occupancy with up to 97% and 99% accuracy respectively

CAPTCHA Solver

- Processes images of simple distorted 4-character CAPTCHAs using OpenCV and creates a model with Keras and TensorFlow to classify each character and return characters in CAPTCHAs as text with up to 99% accuracy in 5 iterations

Rock-paper-scissors Machine (on GitHub)

- Plays rock-paper-scissors, determining winner, and tracking scores. Learns as you play and tries to win by determining previous playing patterns made by the player

Yelp Review Sentiment Analyzer (on GitHub)

- Determine if Yelp reviews were positive or negative with up to 83% accuracy
- Utilize numpy, scikit-learn, and nltk to implement Naive Bayes and Logistic Regression models to find optimal algorithm

Song & Artist Recommender System (on GitHub)

- Analyzes user listening data and audio features to recommend relevant songs/artists using pandas, scikit-learn, and matplotlib
 - Implemented PCA and K-Means with K-Nearest Neighbors to improve accuracy of recommendations
-

SKILLS & TOOLS

- AWS Certified Solutions Architect - Associate (MH92PYH1PFB1QB9N) Feb 21, 2020 - Feb 21, 2023
 - Languages: Python, JavaScript, TypeScript, HTML, CSS, SCSS, SQL, C, C++, Tcl, ARM
 - Technologies: Node.js, Angular, Express, REST APIs, GitHub, React, MongoDB, Perforce, Linux
 - Methods: Agile Development, Scrum
-

EDUCATION

Santa Clara University, Santa Clara, CA

B.S., Computer Science (Security Emphasis), Mathematics (Data Science Emphasis)

Sep 2014 - Jun 2018

Relevant Coursework: Cryptography, Networks, Machine Learning, AI, Data Structures, Algorithms, Object-oriented Programming, Embedded Systems, Databases, Linear Programming