Jeffrey Chiu

510-766-6445 | jeffrey_chiu@college.harvard.edu | 220 Litle Foot Drive
linkedin.com/in/jeffreychiu23/ | github.com/Deblob12

EDUCATION

Harvard University
A.B. Computer Science and Statistics
Coursework: Intro to Computer Science, Systems Programming and Machine Organization, Data Structures and Algorithms, Linear Algebra and Real Analysis, Mathematics for Computation and Data Science

Awards: 4x American Invitational Math Exam (AIME) Qualifier; USACO Gold Division

Certificates: Using Python for Research (Harvard), Responsible Conduct for Researchers (University of Iowa)

SKILLS

Technical Skills: C/C++, Python, Java, JavaScript, SQL, HTML, CSS, MATLAB, Octave
Tools: AWS, LocalStack, Terraform, Docker, Microsoft Office Suite, Linux/Unix, Git, Mathematica
Languages: Native Proficiency in Mandarin, Conversational Proficiency in Hokkien

WORK EXPERIENCE

Trend Micro **Jun 2019 — Aug 2019**
Software Engineering Intern

- Cut AWS costs by $18,000/year and decreased feature run time by 50% through identifying bottlenecks within cloud architecture and refactoring Lambda Functions using AWS (Chalice, DynamoDB, SQS, Kinesis) and Boto 3.
- Simplified architecture and cut down code base by 42% through transitioning AWS Lambda Function framework from Serverless WSGI + Flask to AWS Chalice.
- Developed infrastructure software to locally mock AWS cloud stack for efficient local development, deployment, and testing of Cloud-Native applications using LocalStack, Terraform, and Docker.

University of Iowa Informatics Initiative **Jun 2018— Jun 2019**
Research Assistant

- Developed software to identify co-location cliques through implementing the Spatial Apriori algorithm, Monte-Carlo simulations, and Cross-K functions using TensorFlow and data queries using GoogleMaps API.
- Linked discovered co-location patterns and analyzed implications with regards to revenue and competitors by connecting discovered co-location cliques with data generated through web-crawling MergentOnline database.
- First author on paper accepted published in the 2018 INFORMS Data Science Workshop.

PROJECTS

Nose-Goes (A Serverless Slack-Bot for indecisive travelling moments)
Developed AWS Serverless Slack-Bot that generates directions and travel-time to a pseudo-randomly generated point of interest that is customized based upon what kind of locations the user would like to visit. Also contains features to find optimal travel time and directions between any two locations. Implemented using Zappa, Flask, AWS Lambda, AWS DynamoDB, Slack API, and GoogleMaps API.

Recurrent Neural Network Composer
Created model that composes Irish Jigs and allows for customized instrumentation by training a Long Short-Term Memory Recurrent Neural Network on the Nottingham Music Database using TensorFlow, Timidity, and Music21.

Robotics
Created autonomous & tele-op programs using Java code, Vuforia computer vision, and different sensors (gyro, optical distance, light, touch); qualified for First Tech Challenge World Championships

PUBLICATIONS

Chiu, J, Vahedian, A. Zhou, X. (2018). *Understanding Business Location Choice Pattern: A Co-Location Analysis on Urban POI Data*. INFORMS Workshop on Data Science. Phoenix, AZ 2018.