KEN TU

Github: HuyTu7 | LinkedIn: huytu | Cell: (+1) 919-961-8256 | Email: hqtu@ncsu.edu

SUMMARY

- Researcher/Engineer, passionate about solving real-world problems empirically through development & research experience in data mining, machine learning, & AI
- Extensive individual & collaborative work in text analytics, computer vision, and graph mining
- Interested in backend/infrastructure development as well as research oriented machine learning and data science positions

EDUCATION

NORTH CAROLINA STATE UNIVERSITY (NCSU) – *Raleigh, NC*

Ph.D. in Computer Science - **GPA: 3.67 / 4.0**   May 2020

APPALACHIAN STATE UNIVERSITY (ASU) — *Boone, NC*

M.A. in Mathematical Science & M.S. in Computer Science - **GPA: 3.74 / 4.0**

B.S. in Computational Mathematics, *magna cum laude* - **GPA: 3.80 / 4.0**   May 2015

RELEVANT SKILLS

Teaching Assistant	Calculus I/II, Data Structure, Parallel Architecture, & Artificial Intelligences
Programming	Python, R, Java, JavaScript, NodeJS, C++, Bash, & MySQL
Frameworks/Tools	Git, Apache Spark & Kafka, Scikit-learn, Keras, TensorFlow, Ansible, & Docker
Operating Systems	Linux(Ubuntu) & Windows
Languages	English & Vietnamese

RESEARCH PROJECTS

Facebook User's Age Prediction
- Mined and investigated unstructured 25k Facebook users' posts through Vietnamese language processing with traditional machine learning methods, convolutional neural networks, & LSTM to predict the user's age. Achieved accuracy = 79.6%.

Facial Beauty Rating
- Developed a facial attractiveness rater based on the SCUT-FBP dataset, contains images of 500 Asian women and applying open-source OpenFace software to extract facial landmarks as features. With Pearson correlation of 0.86, convolutional neural networks outperform traditional machine learning method such as Random Forest (only achieved 0.64).

Yelp Businesses Recommendation System
- Built a recommendation system with Apache Spark and Alternative Least Square algorithm integrated users' reviews sentiment analysis along with other attributes on the 4.5+ million reviews and 146k+ businesses Yelp dataset to suggest new businesses that are appropriate to the users' interests.

Graph Embedding for Recommender System
- Implemented DeepWalk as a graph-based technique to recommend the viewer-movie pair by evaluating and preference propagation algorithms (word2vec model) in heterogeneous information networks generated from user-item relationships to recommend the viewer-movie pair.

Developer Triage Bot
- Developed a bot on AWS that assigns & suggests suitable tasks for the developer along with recommending experienced developers in the team to help them if needed in real time through Slack interface and Github task tracking.

NBA Game's Performance Prediction and Outstanding Player Detection
- Co-Led a research team to analyze, build, and evaluate NBA Results Prediction and Outstanding Player Detection using a various ensemble of regression, classification, and outlier detection techniques on 1980-2010 NBA records dataset. The model predicted overall performance of a team per season with 4.056 for RMSE score and 66.4% accuracy.

ACADEMIC COURSES

- Operation Research
- Artificial Intelligence
- Automatic Learning & Data Analysis
- Algorithms for Data Guided Business Intelligence

- Software Engineering
- Foundation of Software Science
- Design & Analysis of Algorithms + Graph Theory
- Statistical Concepts and Applications I and II

PROFESSIONAL EXPERIENCES

Graduate Assistant – *Computer Science Department, ASU + NCSU*   Fall 2015-Present
- Research and collaborate with Dr. Menzies at the RAISE Lab (Real-world Artificial Intelligence for Software Engineering [SE]) for exploratory and experimental studies with future publication activities
- Coordinate with the professor & other Teaching Assistants as a team to consolidate plans, structure the course, design tests, conduct review sessions, facilitate labs, and deliver the lesson effectively
- Current Project: studying and analyzing the sentiment and purposes of scientific citations of SE research papers while optimizing and stabilizing the state-of-the-art learners

R&D Data Science Intern – *YouNet & Gumi*   Summer 2017
- Researched and designed scalable data-driven algorithms from machine learning and neural network methodologies
- Analyzed the semantics of data, developed model, optimized performance, & deployed projects to solve business problems
- Devised and enhanced core products in the system: Facial Beauty Rating, Facebook User's Age Prediction with Graph Clustering and Text Analytics, & Car Detection

Web Developer Intern – *OverMountain Studios, Inc*   Summer 2016
- Designed, built, and maintained client's application with AngularJS & Bootstrap front-end and a NodeJS backend
- Tested functionality of client websites, troubleshoot for issues and re-structured websites for scalability and usage

Resident Assistant – *University Housing, ASU*   Spring 2013 – Summer 2015
- Organized building wide and cross building wide programs that fostered community for 500+ students
- Expressed the voice of Resident Assistants and students on campus through composing policy and legislation proposals from Resident Assistant Council to University Housing Leadership
- Directly advised and collaborated with the new Resident Assistant(s) and Chair of the residence hall council professionally and efficiently to help develop their leadership
- Ensured the enforcement of legal and university policy through campus wide duty rounds to provide a safe and inclusive living environment for all members of the Appalachian State community.

SIGNIFICANT AWARDS AND HONORS

- Pi Mu Epsilon Mathematics Honor Society, *2013-Present* | Academic Excellence, top 2% of the class
- Graduate Merits Fellowship, *2015-16* | Notable Mathematics Graduate Student ($10,000+), ASU
- Hall Staff of the Year, *2013-15* | Head Resident Assistant, distinct hall staff of the year for two consecutive years
- Student Employee of The Year, *2014-15* | Undergraduate Research Assistant
- Who's Who Among Students in American Universities, *2014-15* | National Recognition for Outstanding On Campus Student Leader