Benyamin T. Tabarsi

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EDUCATION

North Carolina State University, Raleigh, NC || Ph.D. in Computer Science   Aug 2021 – May 2026 (Anticipated)
- Courses: Design and Analysis of Algorithms, Automated Learning and Data Analysis, HCI, Text Mining in Education

Science and Research Branch of Azad University, Tehran, Iran || M.S. in Computer Engineering   Sep 2016 – Aug 2019
- Courses: Data Mining, Big Data Analytics, Advanced Software Engineering, Software Architecture   GPA: 19.31/20 (A+)
- Ranked 1st among the Computer Software Engineering class of 2016 for attaining the highest overall GPA

University of Mazandaran, Babolsar, Iran || B.S. in Information Technology Engineering   Sep 2011 – Aug 2016
- Courses: Object-Oriented Programming, Data Structures, Database Systems, Software Engineering, Artificial Intelligence

TECHNICAL SKILLS

Languages: Java, Python, C++, R, HTML, CSS, JavaScript, PHP
Databases and Operating Systems: MySQL, Windows, macOS, Linux
Tools/Libraries: GIT, IntelliJ IDEA, Eclipse, VS Code, PyCharm, MATLAB, CVX, YALMIP, Microsoft Office, Google Workspace, MySQL Workbench, Adobe Photoshop, Scikit-learn, NumPy, Pandas, Matplotlib, Jupyter, Hadleyverse (ggplot2, dplyr, tidyr, readr, stringr)

EXPERIENCE

Graduate Research Assistant, Game2Learn Lab, North Carolina State University, Raleigh, NC   May 2022 – Present

Undergraduate Research Interns' (REUs) Mentor   May 2022 – Aug 2022
- Mentored 3 REUs to conduct research and analysis, build a development plan and successfully complete it

Summer Camp Counselor, North Carolina State University, Raleigh, NC   July 2022
- Led a group of 20+ high school students in a one-week block-based programming camp, focusing on games and art in Snap!

Graduate Teaching Assistant, North Carolina State University, Raleigh, NC   Aug 2021 – May 2022
- Automated Learning and Data Analysis & Data Structures and Algorithms: Designing coding/written questions, office hours, grading

Research Assistant, Distributed Systems Laboratory, Azad University, Iran   Nov 2017 – Aug 2019

IT Support Intern, Health Center of Babol, Iran   June 2015 – Aug 2015
- Provided support and instructed staff to efficaciously use computer systems
- Cooperated in analyzing patients' data to find their attitude and practice regarding breast cancer screening via MATLAB, and SQL

Full Stack Web Developer, Freelance, Iran   July 2013 – July 2016
- Designed and developed 3 websites and provided support for a website with PHP, HTML, CSS (Bootstrap), and Google Analytics

PROJECTS

Detecting Novice Programmers' Struggling Moments by Analyzing their Coding Log Data   Jan 2022 – Present
Research Project, Game2Learn Lab
- Identified patterns in the trace log data of novice programmers associated with their struggling moments using Python
- Added a module to iSnap (block-based programming environment) for showing feedback messages using JavaScript
- Collaborated with the research team in programming and analysis using Git and Google Colab and in survey design on Qualtrics
- Published the result of this work as two papers in Data Mining in CS Education (CSEDM) Workshop, 2022 (Paper 1|Paper 2)

Analyzing the Interface and Functionalities of Grubhub from different HCI Perspectives   Jan 2022 – May 2022
Course Project, Human-Computer Interaction (HCI)
- Conducted heuristic evaluation, cognitive task analysis, competitive analysis, storyboarding, interviews, and prototyping on Grubhub

Exploring Hot Topics in Academic Papers Investigating Block-Based Programming Languages   Jan 2022 – May 2022
Course Project, Text Mining in Education
- Analyzed the abstract, discussion, and conclusion of 30 academic papers by calculating tf-idf, bigram/trigram and word network analysis, and topic modeling with LDA, CTM, and STM using R (RPubs Link)

Predicting Job Titles of the Users of LinkedIn using their Posts   Aug 2021 – Dec 2021
Course Project, Automated Learning and Data Analysis
- Calculated ELMo and GloVe embedding representations for a dataset of +34,000 LinkedIn posts in Python
- Implemented PCA for dimensionality reduction and performed classification with machine learning models: K-Nearest-Neighbor (KNN), Decision Tree, Random Forest, Naive Bayes, Neural Network, Logistic Regression, Support Vector Machines (SVMs)
- Gained 75% accuracy in predicting users' occupation and visualized data using Pandas, Matplotlib and Seaborn

Resource Management in Green Internet of Things towards Reducing Latency   Nov 2017 – Aug 2019
Master's Thesis Research, Distributed Systems Lab
- Proposed and solved a joint optimization problem in MATLAB to minimize power consumption and delay at IoT networks (Paper)