

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 GPA: 3.87/4

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, Google Analytics, MySQL Workbench, Adobe Photoshop, Scikit-learn, NumPy, SciPy, Pandas, Keras, Matplotlib, Jupyter, Hadleyverse (ggplot2, dplyr, tidyr, readr, stringr)

EXPERIENCE

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

• Analyzing coding patterns of novice programmers in open-ended tasks and developing intelligent support tools

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

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

• Guided students in conducting their research and led group discussions on topics concerning distributed systems, IoT and e-healthcare

IT Support Intern, Health Center of Babol, Iran June 2015 – Aug 2015

• Provided support and instructed staff to efficaciously use computer systems and maintained performance of the systems regularly

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

Game2Learn Lab, Research Projects Jan 2022 – Present

Detecting Novice Programmers' Struggling Moments by Analyzing their Coding Log Data

• Identified patterns in the programming 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 a 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](#))

Exploring Novice Programmers' Affective States

• Collaborated in study design and adding an affect-checking pop-up to iSnap, and retrospective interviews and thematic analysis

Understanding How Software Creators Use ChatGPT (In Progress)

• Collaborated in study design, and started conducting interviews with professional software developers, and thematic analysis to understand how software professional use ChatGPT

Human-Computer Interaction (HCI), Course Project Jan 2022 – May 2022

Analyzing the Interface and Functionalities of Grubhub from different HCI Perspectives

• Conducted heuristic evaluation, cognitive task analysis, competitive analysis, storyboarding, interviews, and prototyping on Grubhub

Text Mining in Education, Course Project Jan 2022 – May 2022

Exploring Hot Topics in Academic Papers Investigating Block-Based Programming Languages

• Analyzed 30 academic papers by calculating tf-idf, bigram/trigram and word network analysis, and topic modeling with LDA, CTM, and STM using R ([RPubs](#))

Automated Learning and Data Analysis, Course Project Aug 2021 – Dec 2021

Predicting Job Titles of the Users of LinkedIn using their Posts

• Calculated ELMo and GloVe embedding representations for a dataset of +34,000 LinkedIn posts using 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 using Scikit-learn, NumPy, Pandas, and Keras

• Gained 75% accuracy in predicting users' occupation and visualized data using Matplotlib and Seaborn

Distributed Systems Lab, Master's Thesis Research Nov 2017 – Aug 2019

Resource Management in Green Internet of Things towards Reducing Latency

• Proposed and solved a joint optimization problem in MATLAB to minimize power consumption and delay at IoT networks ([Paper](#))

EXTRACURRICULAR ACTIVITIES

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!