Peiyuan Ma

mapeiyuan1874@gmail.com | 314.332.8767 | Chapel Hill, NC | https://patrickma.me

Education

University of North Carolina at Chapel Hill Aug 2019-Dec 2021

B.S. in Computer Science, B.S. in Statistics, *Phi Beta Kappa*, **GPA**: 3.97/4.0

- **Courses:** Algorithms (TA), Data Structures, Operating Systems, Databases, Compilers, Networking, Web Development

Huazhong University of Science and Technology (HUST) Sep 2017-Jul 2019

Transferred out, **GPA**: 3.98/4.0, **Ranking**: 2/242

Skills

Languages: Java, Python, C#, JavaScript, C, Racket, SQL, R, HTML, CSS

Development: Spring, Express, .NET Framework, Django, Vue, Bootstrap, Sequelize, MyBatis, MySQL, MongoDB

Statistics/Machine Learning: Keras, Tensorflow.js, Deep Learning Specialization (Coursera)

Infrastructure&Tools: AWS Solutions Architect Associate, Docker, Maven, Git

Experience

Credit Suisse *Raleigh, NC*

Technology Analyst Intern May 2021-Aug 2021

- Developing a credit trading simulator mimicing behaviors of Bloomberg venue in **.NET Framework**
- Developing a NLP solution quantifying public's opinions of companies using data from news and social media

UNC Department of Computer Science *Chapel Hill, NC*

Research Assistant, Eye Tracking for People with ALS May 2020-Aug 2020

- Developed a low-cost eye tracking solution, which can help people with ALS to interact with websites using eyes
- Developed a unique website in **face-api.js** to enable users to capture low-resolution eye gaze data within a single press
- Achieved an average test score of 0.955+ on 1000+ collected data using **scikit-learn** and **Keras**
- Perfected the demo website in **Tensorflow.js** to enable users to see the eye tracking results after training

Learning Assistant, Algorithms&Analysis (COMP 550) Aug 2020-Present

- Reviewed frontend code, auto-graded exams and gave 60+ accepted suggestions on software bugs, wording, etc
- Held 6 drop-in office hours per week to guide students with problem sets and understanding concepts in Algorithms

Selected Projects

miniJava Compiler Jan 2021-May 2021

- Built a compiler for a non-trivial subset of Java in 5000+ lines of **Java** from scratch
- Constructed AST by developing recursive descent parser and achieved operator precedence by stratifying grammar
- Implemented identification, type checking, code generation in visitor pattern and generated code for stack machine

miniLisp Interpreter Jan 2021-Apr 2021

- Created an environment-passing, OOP interpreter for a lisp-style language from scratch in 1000+ lines of **Racket**
- Built recursive descent parser based on homoiconicity of **Racket** and programed lexer using regular expression
- Achieved lexical scope, procedure, instantiation, inheritance, polymorphism, etc by passing and mutating environment

FTP Client/Server Jan 2021-Mar 2021

- Implemented a FTP Client/Server System that supports login, file transfer in **Python**
- Achieved C/S communication with TCP socket and maximized client's fault-tolerance

ApparelUNC Sep 2020-Nov 2020

- Developed a UNC apparel shopping website with "fitting room" funtionality using **MERN** stack
- Crawled 700+ apparel data from UNC websites, stored it in **MongoDB,** and developed REST APIs in **Express**
- Built "fitting room" page enabling users to choose UNC outfit combinations from cart with **React** and **Bootstrap**