Rui Zhi

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Education

North Carolina State University Aug.2014 - Present
Ph.D. in Computer Science GPA: 4.0/4.0 NC, USA

Beijing University of Chemical Technology Sept.2010 - July.2014
B.E. in Computer Science GPA: 3.79/4.0 Ranked 1/126 Beijing, China

Experience

Teaching Assistant Aug.2014 - Present
North Carolina State University, NC, United States
- Assisted with answering students' questions and providing hints to write assembly-language programs.
Skills: x86 Assembly Language

Research Assistant Sept.2013 - Jun.2014
Chinese Academy of Sciences, Beijing, China
- Assisted with the development of 3D faces reconstruction based on a morphable model.
Skills: MATLAB C++ OpenGL OpenCV

Projects

Building Netflix Prize Prediction Model Sept.2015 - Dec.2015
- Worked in a team of three to create prediction models using classification techniques including Decision Tree, SVM, ANN, KNN.
- Compared different prediction models based on Root Mean Square Error (RMSE).
Skills: R MATLAB Java MySQL

Guess It - A Spanish Words Learning Game Jan.2015 - May.2015
- Worked in a team of three with different majors to create an educational game to teach Spanish words.
- Designed, implemented and tested the game.
- Being used in Elementary Spanish course for online students as coursework.
- Demo online: http://www4.ncsu.edu/~rzhi/GuessIt.html
Skills: Unity3D C#

RobotArena - Game Artificial Intelligence Jan.2015 - May.2015
- Worked in a team of three to create an AI game, which focuses on decision making and strategies for virtual robots to compete in the arena, using decision tree, state machine, Dirichlet domain and A* techniques.
- Implemented steering behaviors of virtual robots including attack, seek, evade, wander, etc.
- Wrote robot behaviors section of the documentation.
- Opensourced on GitHub.
- Demo video: https://goo.gl/pbSojF
Skills: Java Processing API LaTeX

Library Study Group Finder Sept.2014 - Dec.2014
- Worked in a team of four to create a web-based study group finder system.
- Designed the UI of the website along with HCI principles.
- Opensourced on GitHub.
Skills: ASP.NET SQL Server Javascript CSS JQuery Bootstrap LaTeX

Space Invader Game Sept.2014 - Dec.2014
- Implemented a 3D version space invader game.
Skills: C++ OpenGL

3D Face Reconstruction Based on a Single Image Sept.2013 - June.2014
- Studied related algorithms such as Optical Flow,TPS, AAM, 3DMM.
- Built a system which can create 3D face automatically through a 2D face image.
Skills: MATLAB C++ OpenCV OpenGL

Projectionist: Tracking Movie Play Record Apr.2014 - May.2014
- Worked in a team of two to create web application that helps local communities track movie play records.
- Opensourced on GitHub.
Skills: HTML CSS Bootstrap PHP MySQL Javascript

Tiny C Compiler Lexical Analysis and Semantic Analysis Mar.2013 - July.2013
- Implemented a Lexical Analyser by converting the regular expressions to minimized DFA.
- Implemented a Syntax Analyser for LL(1) and LR(0) grammar.
Skills: Java C

Digit-Recognition Based on Artificial Neural Network Mar.2013 - June.2013
- Built a predictor based on a 3-layer feed-forward neural network using the resilient backpropagation algorithm.
Skills: Java

Personalized Information Service Based on Web Data Extraction and Analysis Apr.2012 - Apr.2013
Supported by *The National Undergraduate Scientific and Technological Innovation Fund*
- Researched algorithms such as Breadth-first and Best-first to get the best order to access URL.
- Wrote programs to collect web data extracted by the page path and save them in personalized file formats.
Skills: HTML CSS Java

Awards and Honors

- Graduate Assistantship ($42,000 Annually), *NCSU* 2014-Present
- Regional Software Developing Talent Competition Second Prize, *MIITEC, 20% among 15,000 participants* 2013
- Chinese National Scholarship, *Ministry of Education of China, 0.5% Nationwide* 2013
- Outstanding Student of the Year, *BUCT, 3% of the grade* 2011-2012 , 2012-2013
- National ITAT Programming Second Prize, *EMIC, 3% among 140,000 participants* 2013
- Chinese National Encouragement scholarship, *BUCT, 3% of the grade* 2010-2011 , 2011-2012
- ACM/ICPC Program Design Competition Second Prize, *BUCT, 3% among 200 participants* 2011
- First-class People's Scholarship, *BUCT, 1% schoolwide* 2010

Publications

- Hicks, A., Catete, V., **Zhi, R.**, Dong, Y., & Barnes, T. (2015, June). BOTS: Selecting Next-Steps from Player Traces in a Puzzle Game. In Proceedings of the Second International Workshop on Graph-Based Educational Data Mining (GEDM 2015). CEUR-WS.

- Hicks, A., Catete, V., **Zhi, R.**, Dong, Y., & Barnes, T. (2015) Applying "Deep Gamification" Principles to Improve Quality of User-Designed Levels. In Proceedings of the eleventh annual conference on Games+Learning+Society (GLS 11).