Titania Emmons

Software Engineer with Experience in Mathematics, Instruction, and Communication
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Experiences

Browser Othello AI: Live - Github
- Java-implemented neural nets trained via genetic algorithms for state valuation
- Front-end Javascript implementation uses the trained coefficients
- Bitboard computation for extremely fast, low-resource processing

Pokemon Showdown Interface: Before and After - Github
- Paid to remodel interface with the imposition of no DOM modification
- Used pseudo-elements and inventive hacks to re-arrange/replace components for drastic manipulation
- Created art assets and interactive control element animations for improved user experience

Bridge:
- National title winner
- Paid by US Bridge Federation to represent them abroad in tournament

Skills

Java, CSS3, Javascript, HTML5, React, Python, C++, Machine Learning, Discrete Math, Game Theory

Employment History

Public High School Teacher/Substitute: September 2015 - June 2017
- Taught math courses from Algebra 1 through Differential Equations, AP Physics, and AP Biology for Fairfax County Public Schools
- Collaborated to develop curriculum and usually constructed the lesson plans for my own sections
- Selected to replace Thomas Jefferson High School for Science and Technology precalculus teacher in January 2016 for remainder of school year

BBN Technologies and Office of Naval Research Internships: June 2007 - September 2010
- Contributing coder for distributed network, high-precision time delay estimators
- Developer of mathematical algorithm for fast separation of multiple absorption lines in tunable diode laser absorption spectroscopy
- Designer and coder of an unmanned autonomous reconnaissance plane ground-control system

Education

Caltech: September 2009 - June 2014 with coursework in AI, information theory, differential equations, decidability and tractability, statistics, number theory, abstract algebra, signal processing, physics
Thomas Jefferson High School for Science and Technology: September 2005 - June 2009