Peter Hahn

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EDUCATION

BROWN UNIVERSITY
BS in Computer Science
Expected May 2020
Providence, RI

WETHERSFIELD HIGH SCHOOL
Wethersfield, CT
Graduated Valedictorian
SAT: 2300/2400

COURSEWORK

COMPUTER SCIENCE
Artificial Intelligence
Software Engineering
Deep Learning
Machine Learning
Interfaces, Information, and Automation
Computer Systems
Logic for Systems
Theory of Computation
Computer Science Datastructures and Algorithms
Discrete Structures and Probability
Computers, Freedom, and Privacy

MATH
Linear Algebra
Calculus I, II, III
Number Theory
Statistical Inference

SKILLS

PROGRAMMING
Proficient:
Java • Python • Kotlin • Scala • SQL • C • HTML/CSS • Javascript • Google Apps Script • Racket • OCaml
Familiar:
BASH • C++ • Prolog • R

FRAMEWORKS AND TOOLS
Node.js • React • Redux • jQuery •Flask • Ktor • Alloy • Spark • LaTeX• TLA+ • ZeroMQ • Protobuf

OPERATING SYSTEMS
Windows • Linux • UNIX

LINKS

Github: github.com/PeterKHahn
LinkedIn: linkedin.com/in/PeterKHahn

EXPERIENCE AND INDEPENDENT PROJECTS

PROJECT R.A.D.A.R. | BACK-END DEVELOPER Spring/Summer 2018
A multiplayer online real-time game based in Java/Spark where players strategically use Radars to find and defeat opponents in a King of the Hill style game, complete with AI players.
- Designed the game engine physics, game logic, and communication protocols, using chunking to seamlessly and efficiently communicate between the different components of the project. This brought a traditionally linear time and space problem to be constant time.
- Interconnected the frontend and the backend in an extensible way to allow for new components to be easily added.
- Improved upon networking, websocket, and rendering issues, reducing the amount of rendering by an additional 75%

IVIDERE : VISUAL PROSTHESIS | SOFTWARE ENGINEER Fall 2017, Spring 2018
An assistive device for the blind. By combining a neural network that can perform real time object detection and playing sounds in 3D space, we can give a user immediate feedback about their surroundings.
- Redesigned the structure of the project to be modularized and distributive, using protobuf and ZeroMQ
- Designed the central architecture to allow communication between hand tracking software and acceleration data

THE HUB: RATTYORNOT | FULL STACK DEVELOPER Spring 2018
A webapp that retrieves information from Brown University's Dining API and integrates it with Google Calendar, allowing the user to make quick queries and plan meals easily
- Created Flask backend and frontend using jQuery, that retrieves and parses JSON information of dining halls
- Securely communicated with frontend, backend, and third party servers using Google OAuthentication
- Used Google Calendar API and Natural Language Parsing to instantly add food items and other events to my Calendar, speeding up the process from minutes to seconds.

NEOEDUCATION: FLASH | FULL STACK DEVELOPER Spring/Summer 2018
A study tool for students to prioritize, categorize, and organize note cards.
- Designed a multipage webapp using a React frontend and a Kotlin backend API
- Secured account communication using Google OAuthentication and token/cookie based authentication
- Created scalable databases using SQL to store user datasets

UNIVERSITY RESEARCH

NON-ARBITRARY MODEL FINDERS | SOFTWARE/DATA ANALYSIS Summer 2018
Model finders such as SAT-solvers that are used for optimization purposes often give arbitrary and often misleading models. Our study aimed to find the effect of minimal, maximal, and arbitrary models on the students' interpretation.
- Using SQL databases, filtered through thousands of models to determine the effectiveness of minimal and maximal models
- Constructed the code that connected the various datapoints using relational tables, allowing for extensibility for future years of study
- Using regex, handled noisy data to allow for efficient data comprehension

BOOTSTRAP WORLD | DATA ANALYSIS Winter/Summer 2017
Brought Computer Science to all levels of education, bringing in pedagogical tools of Computer Science and incorporating them into Algebra, Physics, and other courses
- Created programs for data analysis and collection in R and Google Apps Script, conclusively showing performance improvements that were published in the paper: *Assessing Bootstrap:Algebra Students on Scaffolded and Unscaffolded Word Problems*
- Researched and presented different pedagogical tools to maximize student's understanding of Computer Science and mathematical concepts in our new data science course.

OTHER

COMPUTER SCIENCE TEACHING ASSISTANT Fall 2017, Spring 2018
Held section and designed assignments for over 200 students across 2 semesters for introductory computer science courses

SUNLAB CONSULTANT Fall 2018
Assisted and taught students about the technical aspects of the department machines

HACK AT BROWN • BLOOMBERG CODING COMPETITION • MICROSOFT CODING CHALLENGE