SERENA CHAN

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education

University of Massachusetts Amherst
May 2021 (expected) | Amherst, MA
B.S. (Honors) in Computer Science
B.S. (Honors) in Pure Mathematics
Dean's List (All Semesters)
Chancellor's Award Recipient
GPA 3.983 / 4.0

Deerfield Academy
May 2017 | Deerfield, MA

coursework

Graduate
Formal Language Theory (in progress)
Deep Learning for NLP (in progress)
Programming Languages
Machine Learning

Undergraduate
Introduction to Algorithms (in progress)
Computer Networks (in progress)
Artificial Intelligence
Computer Systems Principles
Honors Discrete Math & Computation
(course citation)
Honors Probability & Statistics
Systematic & Functional Programming
Data Structures & Algorithms
(course citation; teaching assistant)
Introduction to Digital Logic
Linear Algebra
Multivar. Calculus & Diff. Equations

skills

Languages
Java (including Android) • Python • Scala • C# • C++ • C • OCaml • JavaScript • Swift • HTML/CSS • MATLAB • Mathematica

Technologies & Frameworks
Field-Programmable Gate Arrays (FPGA), Verilog HDL, Git, LaTeX, CAD, Node.js, Django, Xamarin, Unix Systems

activities

Vice President, Build UMass
Strategized with faculty of computer science, engineering and business school for high-level planning and organization. Liaisons with domestic and international non-profit organizations for 5+ tech volunteering projects.

Co-Chair, Women in CS (WiCS) @ UMass
Organizing and leading monthly gatherings and workshops for the women and non-binary computer science community. Meets with faculty and grad students on diversity efforts.

experience

Software Engineering Intern | Microsoft, Inc.
Jun 2018 – Aug 2018 | Cambridge, MA
- Led a project related to a cross-platform mobile application geared towards bringing descriptions of the environment to the visually impaired as a Garage intern
- Worked on computer-vision related algorithms and optimized raw computer processing data routine to reduce latency
- Restructured codebase for maintainability using the MVVM model and reduced crashes and app failures

Undergrad. Researcher | UMass Autonomous Mobile Robotics Lab
Jan 2018 – Dec 2018 | Amherst, MA
- Led a project on mobile robot localization
- Assisted in the implementation of attack tactics for UMass Minutebots, the lab-affiliated RoboCup-SSL (robot soccer) team
- Assisted in testing & development of SRTR, an automatic state-machine repair tool

Undergrad. Course Assistant & Coordinator | UMass Amherst
Jan 2018 – Current | Amherst, MA
- Received "UCA Excellence Award" for contributions to course development; leading efforts to redesign hiring processes and systems
- Grading and giving feedback on weekly lab work & exams in second-semester data structures & algorithms course with around 250 students
- Regularly responds to questions in-class, outside of class, and online through Piazza; holds and leads project help sessions

Research Intern | University of Connecticut
May 2016 – Feb 2017 | Storrs, CT
- First author of paper submitted to MobileHCI 2017 – Towards a Low-cost User-friendly Brain-Computer Interface for Smart Environments and Text Input, supervised by Dr. Han Song (University of Connecticut)
- Designed low-fatigue, low-latency Chinese input system with brainwave signals collected from EEG headsets for the disabled
- Achieved >92% predictive accuracy using supervised machine learning models and real-time FFT-based data processing routines

projects

S1REN: Emergency Response System
Jan 2018 – Jul 2018 | Best Disaster Relief Hack, SheHacks 2018
- Created low-latency, real-time system for first responders that performs smart detection, classification and clustering of calls for help on social media
- Outlined and implemented tweet data processing routine; designed web API and sockets for real-time database monitoring
- Produced text & location extractor using social triangulation and analyzed open-source data from Hurricane Sandy and Harvey

SharkFin: Personal Finance Manager
Dec 2017 | JPMC & Viacom Prize Winner; Intuit & Google Finalist, YHack 2017
- Conceptualized a finance habit tracker web application that utilizes statistical models to detect healthy or unhealthy spending and suggests alternative cheaper items from online and local retailers
- Engineered recurrence-identifying statistical models and implemented underlying data structures to process purchases; utilized keyword tagging and bank APIs to categorize purchases as healthy or harmful habits

Pluto: Remote Door Security System
Nov 2017 | Grand Prize Winner & Lutron Challenge Finalist, HackUMass V
- Created smart door monitoring system utilizing machine learning to identify & classify faces upon knocks, and notifies real-time from mobile application
- Designed knock detection algorithm & signal normalizer/debouncer on FPGA, implemented facial recognition & classification pipeline in AWS and Python