SERENA CHAN

✉ info@serenachan.me ☎ (413) 695-7954 ○ sardinachanx ◻ in/serena-chan-tk

education

University of Massachusetts Amherst, Commonwealth Honors College | Amherst, MA Dec 2020 (Expected)
- *B.S. Computer Science & Pure Mathematics; GPA: 4.0 (Dean's List, Chancellor's Award Recipient)*
- Relevant Coursework: Artificial Intelligence (in progress), Machine Learning (in progress), Programming Languages (graduate; in progress), Computer Systems Principles (in progress), Social Issues in Computing, Honors CS Independent Study in Robotics, Honors Probability & Statistics I, Systematic & Functional Programming, Honors Discrete Math & Introduction to Computation *(awarded course citation)*, Introduction to Numerical Analysis, Data Structures & Algorithms *(awarded course citation)*, Complex Variables, Physics: Mechanics

Deerfield Academy, cum laude | Deerfield, MA May 2017
- Relevant Coursework: Projects in CS & Digital Logic, Robotics, Linear Algebra, Multivariable Calculus & Differential Equations

work experience

Software Engineering Intern | Microsoft | Cambridge, MA Jun 2018 - Present
- Leading a project related to SeeingAI, a cross-platform mobile application geared towards bringing descriptions of the environment to the visually impaired

Undergraduate Researcher | UMass Autonomous Mobile Robotics Lab (AMRL) | Amherst, MA Jan 2018 - Present
- Assists in the implementation of attack tactics for UMass Minutebots, the lab-affiliated RoboCup-SSL (robot soccer) team
- Assists in the development and testing of SRTR, an automatic state-machine parameter repair tool

Undergraduate Course Assistant & UCA Program Coordinator | College of Information and Computer Sciences, UMass Amherst Jan 2018 - Present
- Received "UCA Excellence Award" for contributions to course development and was appointed UCA coordinator for Fall 2018
- Grades and gives feedback on weekly lab work & exams in CS187, a 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 | Storres, CT Jun 2016 - Feb 2017
- 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 an SVM classifier and real-time FFT-based data processing routines

skills

Languages
Proficient in: Java (including Android), C#, C++, Scala, Wolfram Language (Mathematica) | *Experience in:* Python, C, Javascript, Swift, HTML/CSS, MATLAB

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

projects

S1REN: Emergency Response System Jan 2018 - Present
Best Disaster Relief Hack, SheHacks Boston 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
JPMorgan Chase: Finance of the Future & Viacom Challenge Winner; Intuit & Google Challenge Finalist, YHack2017
- 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 Sponsor Challenge Finalist, HackUMass V
- Created smart door monitoring system utilizing machine learning to identify & classify faces upon knocks and notifies real-time from an Android application
- Designed knock detection algorithm and custom signal normalizer & debouncer on an FPGA; helped implement facial recognition and identity classification routine using AWS and Python

Mini Roomba Apr 2017 - May 2017
- Designed a smart vacuum cleaner with a budget of $100 based on the Roomba controlled by an Arduino and utilized AutoDesk software and 3D printing to design and produce all essential mobile parts
- Developed intelligent collision detection algorithm based on data from ultrasonic, optic and tactile sensors

activities

Director in Training | HackUMass VI Jan 2018 - Present
- Co-leads the sponsorship team in constructing sponsors' packet; coordinates efforts to contact potential company sponsors
- Liasons with faculty members of computer science, engineering and business school for high-level planning and organization
- Represents HackUMass in meetings with school authority figures, other hackathon organizers, and external organizations

Co-chair | Women in Computer Science at UMass (WiCS @ UMass) Sep 2017 - Present
- Organizes and leads monthly gatherings and workshops for the women and non-binary computer science community
- Maintains and updates the WiCS website and social media pages; meets with professors and graduate students for resources

Programming Co-head, R&D Head | Deerfield Robotics Team Sep 2015 - May 2017
- Designed & implemented modular codebase optimized for flexibility; created autonomous algorithm used in FTC competitions
- Co-founded a medium-scale robotics competition for nearby middle schools and beginners in high school
- Held FTC training sessions in engineering, coding and project management; grew robotics program to over 4 times its original size