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| armaan1@cs.uw.edu | **Armaan Sood** | | | armaansood.com  linkedin.com/in/armaansood |
| **Education** | | | | |
| **Seattle, WA** | **University of Washington** | | | Fall 2016 – Spring 2020 |
| 3.9 GPA (Phi Beta Kappa, Dean’s List).   * B.S. in Computer Science (direct admission) and Mathematics (double major). * **Upcoming Courses**: Real analysis; abstract algebra; topology. * **Past Coursework**: Database Systems (grad); Computer Networks; Distributed Systems; Operating Systems; Theory of Computation; Compiler Construction; Computer Vision; Algorithms; FPGA Programming. * **Interest**: Systems programming (databases, distributed systems, operating systems); C++. | | | | |
| **Experience** | | | | |
| **Software Engineer Intern** | **Microsoft – Azure Cosmos DB** | | | **June 2019 – September 2019** |
| * Created and integrated a mutation proxy fuzzer system for Cosmos DB’s Cassandra query processor. * Integrated Azure Active Directory authentication to every Cosmos DB request sent and demoed feature to Fortune 500 customers. | | | | |
| **Data Scientist Intern** | **Microsoft – Surface** | | | **June 2018 – September 2018** |
| * Implemented a real-time statistical process control system for Microsoft devices, processing 200 gigabytes of data per day, with Azure and .NET tools – the first usage of real-time analytics within Microsoft devices manufacturing. * Used to improve quality, avoid excess costs, and find root causes during quality failures significantly faster. | | | | |
| **Chair** | **Association for Computing Machinery** | | | **September 2016 – June 2019** |
| * Elected to be the external face of ACM and represent over 1,200 CSE students. * Coordinated and planned events with the school and industry affiliates. | | | | |
| **Teaching Assistant** | **University of Washington** | | | **March 2017 – August 2017** |
| * Head Grader for Software Design and Implementation (CSE 331). * Taught a section of 20-25 students and answered content-related questions on forums. * Graded theory-based code reasoning and project-based assignments. * Held office hours for homework help and course questions. | | | | |
| **Projects** | | | | |
| * **Torgo** (June 2019): Anonymous overlay network based on the Tor protocol. Routes traffic from a browser through a randomized circuit of Tor routers before sending it to the web server. Other Tor routers are found using a peer discovery registration service. Can run (for multiple days or longer) in a heterogeneous environment without resource leaks or deadlock. Wrote around 1.5k lines of code in Golang. * **Distributed Database System** (June 2019): A linearizable, Paxos replicated, sharded key-value store with multi-key updates and dynamic load balancing, similar in functionality to Amazon's DynamoDB or Google's Spanner. * **Operating System** (March 2019): Created a working operating system in C that can run multiple processes efficiently and store file data reliably. Based on the Experimental Kernel (XK). * **Java to x86-64 Compiler** (June 2018): Uses JFlex (lexical analyzer generator) and CUP (LALR parser generator) to generate a scanner and parser using context-free grammars, then transforms the program into an AST for static semantics checking, type checking, and symbol table generation. Finally, generates runnable optimized x86-64 code. * **SimpleDB** (March 2018): A relational database management system in Java that handles queries (joins, aggregate functions, selections, etc.), ACID transactions, and a steal/no-force crash recovery (with a write-ahead redo/undo log + non-quiescent checkpoints). It can run in parallel or as a distributed system across multiple machines. | | | | |
| **Research Experience** | | | | |
| **Undergraduate Assistant** | | **UW Database Group** | **Spring 2018** | |
| * Developing a cost model for LightDB, a database system for virtual and augmented reality content at scale. | | | | |
| **Undergraduate Assistant** | | **Taskar Center for Accessible Technology** | **Autumn 2016 – Winter 2017** | |
| * Worked with Dr. Anat Caspi and Nick Bolton to Developed a tutorial module for the OpenSidewalks Project in Unity. | | | | |