

Ajaay Chandrasekaran

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EDUCATION

University of Michigan–Ann Arbor

Sept. 2013 - April 2017

Bachelor of Science in Engineering in Computer Science

GPA: 3.792/4.000

Relevant Coursework: Web Database and Information Systems, Database Management Systems, Computer Security, Machine Learning, Data Structures and Algorithms, Computer Architecture, Digital Design

EXPERIENCE

University of Michigan, Center for Healthcare Engineering and Patient Safety

May 2015 - Present

- Collaborate with a multidisciplinary team of engineering, nursing, pre-medical, and medical students on projects to improve the safety and quality of healthcare delivery through a systems engineering-based approach
- Develop a C++ simulation that models the flow of ~240 patients per day through the UofM Cancer Center phlebotomy clinic to reduce patient wait times
- Contribute to a C++ application that facilitates the shift scheduling of 10-20 UofM hospital residents by building constraints via the CPLEX library for a mixed integer linear programming model

University of Michigan, Undergraduate Research Opportunity Program

Oct. 2013 - April 2015

- Reconstructed the MIT Media Lab Telemurals system with two peers to better understand how technology can encourage people to interact in public spaces
- Established a real-time video connection between two remote spaces by utilizing the Kurento Media Server platform
- Implemented and expedited C++ code that converts video frames into images similar to those from a comic book
- Recorded detailed summaries of findings and organized weekly meetings with sponsors to discuss new plans of action

PROJECTS

Genetic Retinal Dystrophy Diagnosis Tool • Multidisciplinary Design Program Project

Jan. 2016 - Present

- Collaborate with a multidisciplinary team to develop a web-based tool, which utilizes a machine learning model to assist clinicians throughout the world in diagnosing 100's of patients' genetic retinal dystrophies
- Implement a backend infrastructure with Python-Flask and a PostgreSQL database, emphasizing usability and security of stored patient data to establish rapport with other hospitals for adopting the tool
- Communicate project requirements and design processes with Kellogg Eye Center clinicians and UofM HIPAA Compliance group to ensure that clinicians' needs are satisfied

Tap-To-On Microprocessor Based Toy • Introduction to Engineering Final Project

Feb. 2014 - April 2014

- Constructed an original 2-Player game/logic puzzle with three classmates in the "E100 assembly language," which was executed by our custom Verilog-programmed Altera DE2-115 board and played via a monitor and mouse
- Engineered a challenging AI game opponent, which few users could defeat due to its complex two-step planning algorithm
- Organized weekly group meetings and encouraged discussion to clarify all aspects of our final product

Calculus Flashcard Tool • IB Computer Science Final Project

Sept. 2012 - March 2013

- Planned data structures and algorithms and subsequently programmed a flashcard viewer and editor for high school calculus students with Java's Swing library and the J_{La}T_EX API
- Applied software development cycle tasks under strict deadlines, such as interviewing students, analyzing their needs, designing/programming the flashcard assistant, and evaluating solution efficiencies

SKILLS

Programming Languages: Proficient with C++/C, Java, Python, SQL; Familiar with JavaScript, Matlab, Verilog

Operating Systems: Ubuntu 14.04 LTS, Red Hat Linux, Windows 8.1

ACTIVITIES

Chinmaya Mission

Sept. 2012 - Present

Southeast Michigan Volunteer and Member

- Taught Indian values, history, and culture to children in Chinmaya Mission's Novi branch
- Collaborated weekly with other teachers to plan activities for the children
- Organized skit performance with peers for ~500 people during annual Republic Day celebration