CLIFFORD BAKALIAN

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EDUCATION

University of Maryland, College Park *May 2021*
Master of Science in Computer Science GPA: 4.000

University of Maryland, College Park *May 2020*
Bachelor of Science in Computer Science Phi Beta Kappa National Honors Society
Bachelor of Arts in Philosophy GPA: 3.858

WORK EXPERIENCE

University of Maryland August 2021- Present
Instructor

- Taught courses on Discrete Mathematics, Programming Paradigms, and Git and Project Management
- Managed 43 TAs over 3 courses to help grade, write exams, and hold office hours
- Designed projects and testing frameworks for each course
- Designed exams which focused on application and theory

University of Maryland August 2020- Present
STIC Facilitator

- Co-Designed and co-taught a 1-credit course focusing on various programming paradigms
- Produced projects in Prolog, Forth, Intercal, Rust, and a compiler in Flex/Bison and Racket
- Designed projects and testing frameworks for each topic
- Designed exams which focused on application and theory

University of Maryland January 2018 - Present
Teaching Assistant - Discrete Structures, Programming Paradigms, Object Oriented Programming II

- Led 50-80 minute discussion sessions on proofs, logic, data structures, Java, Ruby, OCaml, Rust
- Wrote scripts for the automation of grading
- Lead a team of 4 on creation of projects, discussion exercises, and exams
- Volunteered to teach JavaScript for Girls Who Code

OMB Warehouse June -August 2017, December 2017-January 2018
Data Manager/Analyst

- Designed a TensorFlow neural network in Python to develop autonomous programs and data processing modules

RESEARCH EXPERIENCE

University of Maryland - Hanan Samet May 2019 - May 2020
Undergrad Research Assistant

- Developed the iOS application of the NewsStand System in Objective-C and C

University of Maryland - Don Perlis November 2018 - December 2019
Undergraduate Research Assistant

- Worked on logical reasoning and analysis of self based reasoning in robots

GRADUATE COURSE WORK

Privacy in Data Management Systems

· Implemented a way for "machine unlearning" to occur in compliance with "right to be forgotten"

Computational Psycholinguistics

· Designed a Pun generator based on phonemes

Compiler Construction

· Helped design modules and analyze effectiveness for the Binary Analysis Platform

Network Security

· Analyzed the effectiveness of the mobile web certificate authentication process in Android phones

Decision Making for Robots

· Built autonomous robots capable of mapping out an area

Wireless and Mobile Systems

· Designed an acoustic indoor localization protocol

PROJECTS

Android App Development

· Developed Android mobile games and camera application in Kotlin, Java and C

Web and Development Server

· Host and maintain Linux git servers, discord-bots, websites on raspberry-pi
· Wrote Bash scripts to help automate maintenance.
· Developed APIs and Apache Web apps in HTML, Django, and Ruby on Rails
· Host SQL server used for Chat-Bots

Robotic and IoT Devices

· Built and designed small Arduino robots and IoT devices and data servers in C and Golang
· Wrote APIs for devices to be accessed over a closed network

Client Side Encryption Application

· Produced C code to handle encryption and SSH/FTP transferring of sensitive data

Class Projects

- Principles of OOP (Java)
- Lexing/Parsing (Racket, Ocaml)
- AI/Deep Learning (Python)
- Compilers (Racket, x86 Assembly, C)
- Database Systems(SQL, Spark)
- Systems (C)
- Web security (Ruby, C, Rust)
- Advanced Data Structures (Lisp, C)
- Systems Architecture (x86 Assembly, C)

TECHNICAL SKILLS

Tools and Services

- Experienced: GitHub, Arduino, Vim, Arduino
- Proficient: Docker, Android Studio, XCode, GDB
- Familiar: Vagrant, TensorFlow, ROS, Jupyter, CRUD tables, LAMP stacks, Agile environments, Spark, Ruby on Rails, Django

Languages

- Experienced: C, Python, Java
- Proficient: Ocaml, Ruby, Racket, SQL, Rust, Bash, Visual Basic
- Familiar: GoLang, Assembly, Lisp, Objective-C, C++, Forth, Prolog, Intercal

PUBLICATIONS

Live and Learn, Ask and Tell, Agents over Tasks
2019 IWSDS