HYUN SOO **JEON**

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EDUCATION

Columbia University   New York, NY

*Bachelor of Arts: Computer Science; **GPA: 3.62**, Dean's List*   **December 2020**

Relevant Coursework

- *Operating Systems, Networks, Design Using C++, Advanced Programming in C, Distributed Systems, Cloud Computing & Big Data, Databases, Programming Language & Translators, Data Structures, Artificial Intelligence, Computer Vision, Natural Language Processing*

TECHONOLOGIES

Technologies: C/C++, Python, Linux/UNIX, AWS, JavaScript, React, HTML, CSS, Go, OCaml, SQL, Networks, Makefile, Git

PROJECTS

Foodophile (Python, AWS, React)

- A serverless, microservice-driven web application that recommends restaurants in Manhattan, given a set of preferences that the user provides via chatbox
- Uses a Yelp API to collect 5,000+ restaurants, stores them in a DynamoDB table and a small subset of fields in Elastic-Search for fast look-up.
- Searches through Elastic-Search for the restaurant ID, given the cuisine type, and then queries the table to find more information such as names and addresses, and delivers the recommendations to the user via SNS message

Smart Door Security (Python, AWS)

- A distributed system that authenticates people and provides them with access to a virtual door
- Subscribes Rekognition Video to Kinesis Video Stream that captures and streams video, outputting the analysis to Kinesis Data Stream
- Employs lambda functions that are triggered for every known/unknown face detected by Rekognition, sending an SMS message to the phone number on file, which includes a One-Time Passcode with a 5-minute expiration timestamp

Synchronizer on Android Emulator (C)

- A new kernel synchronization mechanism that allows multiple processes to block on a rotation event until the emulator exceeds a certain rotational speed
- The device rotation state is accessed via an on-board gyroscope that reflects the rotational speed around X, Y and Z axis of the device, which is in turn polled by a daemon process that updates the device rotation state
- To be resistant to noise, the kernel records N rotational samples; only when n out of N samples exceed the threshold, the event is triggered

Scheduler (C)

- A default Weight Multicore Round-Robin Linux scheduler that supports multiprocessor/uniprocessor systems
- Assigns the task to the CPU with the least total weight among all CPUs
- Fully supports load-balancing; an idling CPU pulls tasks from other working CPUs if it is eligible to be moved

Process Tree File System (C)

- A virtual file system that exports kernel information about the process hierarchy of currently running processes
- Takes care of setting the ownership and the permissions for all files and directories, correctly handling reparenting and termination of processes with appropriate acquiring locks

TCP Server (C++)

- A web server that implements a subset of HTTP 1.0, and that handles GET requests for static content
- The web server maintains a persistent TCP connection to a lookup server
- Providing an HTML front-end to the lookup server, the server returns dynamic content, specifically lookup records formatted in an HTML table

EXPERIENCE

Westchester Community College – Valhalla, NY   **July 2017 to July 2018**

Teaching Assistant: Data Structures in C++, Calculus, Physics

- Promoted deeper learning by providing individualized and small group support to reinforce classroom topics