YOAV ARBIV

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+ EXPERIENCE

Intel | SoC Design Engineering
Jan 2021 - Apr 2021

• Designed and implemented an algorithm to optimize individual silicon voltages, improving worst-case power and delay metrics by ~15%
• Led development of a webapp to visualize post-silicon tuning, allowing manufacturing engineers to differentiate performance tiers of FPGAs for sale
• Modified CAD fitter system to increase speed of FPGA arithmetic, then validated optimizations experimentally
• Created a tool to analyze memory cells along critical paths

A Thinking Ape | Software Engineer
Jan 2020 - Apr 2020

• Re-architected WebSocket implementation system-wide, improving response time and decreasing API load by ~66%
• Automated data aggregation and reporting for app metrics
• Improved endpoint response time >100ms by profiling and load-testing to find bottlenecks
• Designed and implemented views across iOS and Android

D2L | Software Developer
May 2019 - Aug 2019

• Implemented a custom NLP question generation algorithm with a yield rate of 95% applicable questions
• Created a full-stack notetaking app with React and Node
• Leveraged microservices to improve response time >100%
• Managed database redesign to write cleaner CRUD operations and increase query speed by ~25%

North (now Google) | Software Engineer
Sept 2018 – Dec 2018

• Developed phone-to-glasses communication protocol
• Resolved an issue in the glasses rendering pipeline, increasing frame refresh rate by >90%
• Implemented IPC and serialization built on Android libraries
• Created machine learning models from images and audio

+ TECHNOLOGIES

Languages
C, C++, Verilog, Python, JavaScript, Java, Asm

Frameworks/Libraries
React, Redux, Node, Express, MongoDB, SQL, Flask, SpaCy, NLTK, Qt, Android NDK

Tools
Git, ModelSim, Vivado, Quartus, Docker, Bash

+ PROJECTS

XY Controller | C, Diptrace

• 2D controller with stepper motors which visits a series of coordinates and visualizes progress on LCD
• Designed PCB shield for a microcontroller, mapping GPIOs to multiplexers to control components
• Wrote embedded-level state machine to drive motors, check sensors, and poll a keypad

MusicalAnalysis | Python, React

• Analyzes lyrical models to visualize sentiment, lexical diversity, and vocabulary depth
• Determines musical emotion (sadness, anger, happiness) from quantitative audio features
• Preprocesses lyrics, removing stopwords, punctuation, etc. with natural language processing

+ EDUCATION

University of Waterloo | 3.9 GPA
Expected 2022

• BASc, Honours Computer Engineering
• Relevant courses: Real-Time Operating Systems (ECE 350), Computer Architecture (ECE 320), Digital Hardware Systems (ECE 327)