LIAM CHALK

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PROFESSIONAL SUMMARY

FPGA Designer and Electrical Engineer (Current Senior)
FPGA Designer looking for work in the financial investment and trading sector. Experienced in signal data filter design and optimization for high frequency execution.

EDUCATION

Harvey Mudd College Engineering Major (Current Senior) 2019 - 2023
Relevant Coursework: Digital Electronics, Computer Engineering, Advanced Systems Engineering, Electronic Circuits, Dynamics of Elastic Systems, Operations Research, State Estimation, Continuum Mechanics

St. Albans High School 2015 - 2019
SAT: 1570/1600

SKILLS

FPGA Design	Verilog, Xilinx Vivado, ModelSim, Zynq AAPSoC, ARM Processor, RISC-V Processor
FPGA Filters	Particle Filter, Extended Kalman Filter, Autocorrelation Filter, Moving Average Filter
Programming	Python, C++, Java, HTML, Git, Django, React, Tool Command Language
Software	MATLAB, SolidWorks CAD, Autodesk CAD, COMSOL, Simulink
Path Planning	A*, D*, PID Control, Cellular Decomposition, Traveling Salesman Problem
Hardware	Radar, GPS, IMU, Magnetometer, Arduino, Controller Area Network, Digital Circuitry

TECHNICAL EXPERIENCE

FTS International FPGA Designer Summer 2022
FPGA design for high frequency software defined radio signal processing for use on satellites
Developed filtering and analysis techniques in Verilog and integrated within Python pre and post processing

Doosan Bobcat Autonomous Vehicle Clinic Fall 2021
Autonomous mowing area coverage for a ZT6100 lawnmower using state estimation and path optimization
Team of six students equipped hardware and wrote software for Simultaneous Localization and Mapping

WePackItAll Operations Research Consultant Summer 2021
Streamlining of a supplement packaging line using lean manufacturing principles and single-piece flow
Won first place in the regional IISE paper competition and third in the national competition
$1.2 million in estimated annual savings from reduced labor costs and inventory

Laguna Clay Operations Research Consultant Summer 2021
Complete redesign of a ceramics manufacturing facility floorplan using value stream mapping and gemba kaizen
$740,000 in estimated annual savings from reduced floorspace and forktruck usage

National Institute of Standards and Technology Intern Summer 2020
Chemical engineering analysis of automobile paint composition and the effects of weathering
Lab testing using mass spectrometry, gas chromatography, and FTIR spectroscopy

EXTRACURRICULARS

Leadership	Honor Board chair, Case dorm president, Asian affinity group president
Extracurriculars	Machine shop proctor, rocketry club, The Student Life news writer, club rugby
Awards	Davies Prize for Outstanding Engineering Design, Riggs Fellowship, National Merit Scholar, Presidential Scholar Finalist, Seymour R. Bolten Fellowship