Theodore Chiu

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SKILLS

- Software Development (Java, Python, C, C++, embedded C, Javascript)
- Systems design: Digital circuits, embedded systems, systems integration, ASIC/FPGA design (SystemVerilog)
- Data Analysis: classification, regression, clustering, dimension reduction, Bayesian probability
- Machine Learning: Intermediate understanding of neural nets (Pytorch), Reinforcement learning (KerasRL) and Bayesian networks
- Hardware engineering: PCB design(OrCad/PSpice, Eagle, kiCad), Soldering/Hot air rework

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EXPERIENCE

Luna Innovations — Blacksburg, VA
Systems Engineer — 2022 - Present

- Systems engineer in Lightwave Division supporting bleeding edge research of fiber optics by introducing new technologies and current engineering best practices to research team
- Reimplemented out of date software with scalable testing methodologies and modern frameworks
- Helped design software for fiber optic instruments that utilized Rayleigh backscatter OFDR (C++)
- Microsoft Hololens development for interactively displaying data (Unity & C#)
- Implemented software redesign to optimize an embedded system by offloading Fourier Transforms to DSP's (Embedded C)
- Created software using nonlinear optimization (Nelder-Mead) and frequency analysis to perform fabry-perot interferometry at industry leading speeds (Python/Numpy, C++)
- Performed data analysis to perfect EFPI Bragg grated pressure monitoring systems. Implemented high dimensional nonlinear regression to aid in data classification (C++, Intel oneAPI)

Heroes Jobs — San Francisco, CA
CS Intern — Summer 2019

- Worked in an early stage startup as an intern leveraging software design and automation to optimize rapid growth in order to secure next round of funding
- Created libraries and scripts to automate social media presence that lead to an increase in user-acquisition
- Created internet scrapers to mine data from various databases to identify and target potential users
- Analyzed user characteristics and behaviors to identify trends in userbase

Stanford Cognitive Systems and Neuroscience Lab – Stanford University — Palo Alto, CA
Intern — June – November 2016

- Worked in research lab environment as an intern to a post doctorate fellow assisting in research
- Implemented scoring algorithm and optimized UI for screener game designed to help children with dyscalculia.
- Collected and streamlined screener data for later analysis.

EDUCATION

Bachelor's Degree in Computer Engineering
Purdue University, West Lafayette, IN

REFERENCE: Upon request