Bernard Ko

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EDUCATION

Bachelors of Engineering in Electrical Engineering   January 2023
The City College of New York   New York, NY

TECHNICAL SKILLS

Languages: Python, C/C++, JavaScript/TypeScript, SQL
Frameworks: Node.js, Nest.js, React.js
Tools: Git/GitHub, MATLAB, LabVIEW
Databases: MySQL, PostgreSQL

EXPERIENCE

Electrical Engineer I   February 2023 - Present
HBK Engineering, LLC.   Philadelphia, PA
- Managed PECO's assets for efficient material orders, lowering material orders and cost by 50%.
- Drafted project proposals that minimize cost & labor by as much as 30%, outbid our competitors and increased profit by 30%.
- Lead PECO's pole replacement program, trained & managed six designers to efficiently design replacements, saving 40% in time for each pole replacement.
- Designed utility line upgrades and facility replacement for five counties in Pennsylvania to match the growing energy demands.

Meter Engineer Intern   June 2022 - December 2022
New York Power Authority   New York, NY
- Engineered potential and current transformer replacements for NYPA's 69/115kV substations.
- Drafted 1 & 3-line technical drawings and schematics using AutoCAD.
- Designed & supported meter installation and instrument upgrades for NYPA's facilities and municipalities.
- Calibrated & tested revenue/genitor control meters for NYPA's substations to meet ANSI & IEEE standards.

Research Assistant   June 2021 - August 2021
The City College of New York   New York, NY
- Collaborated on a research project focusing on radar and optical detection of UAVs, specifically bird-type drones.
- Deployed a laser generator emitting both in 380 nm to 1mm spectra to illuminate airborne targets.
- Captured scattered radiation using a photodetector, channeling the data to an oscilloscope for signal generation.
- Processed and analyzed time domain signals in MATLAB to extract specific frequencies to differentiate bird type drones from biological birds.

PROJECTS

WealthLadder – Wealth Building Web App   May 2025 - Present
- Engineered a front-end based web app using Next.js that guide users to build wealth.
- Developed a dynamic React financial literacy questionnaire, implementing conditional logic flows based on user inputs to personalize the experience and streamline navigation through multiple decision branches.
- Built modular and accessible UI components, using Tailwind CSS and open sources libraries for scalable and consistent styling.

BuyTheDip - Stock Trading Aid Web App   March 2025 - Present
- Engineered a full-stack web app using Next.js, Nest.js, & PostgreSQL that enables users to make and track stock predictions.
- Integrated real-time stock data, interactive charts, enhancing user experience and engagement.
- Used agile development practices and utilized Git for version control, ensuring efficient collaboration and timely delivery.