Erik Pfeffer

Haworth, NJ 07641 | 551-235-2918 | erikpfeffer5@gmail.com | LinkedIn | Portfolio Website

EDUCATION

University of Maryland — College Park, MD
Bachelor of Science in Computer Science, Minor in Statistics — *Expected May 2025*
GPA: 3.8/4.0

Relevant Coursework

Programming: Object-Oriented Programming, Advanced Data Structures & Algorithms, Database Design, Parallel Computing.
Maths/Stats: Applied Probability & Statistics, Sampling Theory, Calculus, Linear Algebra.

EXPERIENCE

Software Engineer — Aug. 2024 – Present
Hack4Impact-UMD — *College Park, MD*
- Develop full-stack web applications for nonprofit organizations using technologies like TypeScript, React, Node.js, and MongoDB, improving their operational efficiency and digital presence.
- Collaborate with cross-functional teams including designers and product managers to gather requirements, design features, and deliver high-quality software solutions tailored to the specific needs of nonprofit clients.

Data Science Intern — May 2024 – Aug. 2024
John Hancock Investment Management — *Boston, MA*
- Identified **16** new high-potential advisors and forecasted their future sales activity using a neural network model in PyTorch to enhance wholesaler/advisor pre-meeting intelligence with data-driven decisions.
- Automated the creation of smart lists and triggers for product marketing campaigns targeting key advisors, employing natural language processing techniques in Python to reduce manual effort by **several weeks**.
- Assisted in the development of advanced Power BI dashboards by writing efficient DAX expressions, transforming complex and big data from a MySQL Server database into insightful and actionable visualizations.

Software Engineering Researcher — May 2024 – Present
University of Maryland — *College Park, MD*
- Conducting research to explore the feasibility of using Haskell's QuickCheck for generating verifiably correct programs through property-based & unit testing concepts, contributing to the field of software engineering and formal verification.
- Developed a parser and evaluator for a miniature version of Dafny using Haskell, and integrated the Z3 SMT solver to facilitate the analysis and verification of program correctness.

Executive Board Secretary — Dec. 2023 – Present
Sigma Phi Delta - Professional Computer Science & Engineering Fraternity — *College Park, MD*
- Engineered and deployed an automated attendance system using Next.js for the fraternity, efficiently managing and tracking data from **60+ weekly users**.
- As part of the leadership team, established and sustained a proactive line of communication with the fraternity's national office, providing timely and accurate reporting on chapter activities, membership updates, and compliance matters.

Software Developer Intern — May 2023 – Aug. 2023
Voya Financial — *Remote*
- Developed Python scripts to optimize financial close processes, resulting in a **12% reduction** in the time required to complete month-end close activities.
- Reduced manual data entry errors by implementing automated data validation checks and error-handling mechanisms.
- Implemented best practices for code maintainability in an Agile development environment, including modular design, thorough documentation, and version control using Git.

PROJECTS

NutriGuard - Food Ingredient Analyzer | *Next.js, React.js, TypeScript, MongoDB, OpenAI API*
- Developed a full-stack application that enables users to upload photos, documents, or input text to analyze food ingredients for potential harmful substances.
- Integrated Tesseract.js for image/document processing and utilized OpenAI and Nutritionix APIs for ingredient filtering and information retrieval. View Here

Full-Stack Restaurant Reviewer | *MongoDB, Express.js, React.js, Node.js, TailwindCSS, Next.js*
- Engineered a full-stack application that allows users to discover restaurants based on price or cuisine preferences as well as the ability to leave ratings and reviews on them.
- Created a RESTful API to manage restaurant data and user interactions. View Here

TECHNICAL SKILLS

Languages: HTML5/CSS3, JavaScript, TypeScript, Python, Java, C/C++, OCaml, Haskell, SQL (Postgres/MySQL), R.
Frameworks/Developer Tools: Git, Bash, React.js, Node.js, Next.js, Linux, MongoDB, Docker.