Derek Dang

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Technical Skills

- **Programming Languages:** Python, C#, TypeScript, SQL, GraphQL
- **Cloud/Database:** PostgreSQL, AWS (S3, Amplify), Azure (Blob Storage, SQL Database), MongoDB
- **Frameworks/Tools:** React, Angular, .Net Core, Gatsby, Node.js, Flask, VS Code, Visual Studios, Git, GitHub

Work Experience

Full Stack Developer — Krieger School of Arts & Sciences

Aug 2024 – Present | Baltimore, MD

- Developed a classroom reservation system for over 650 lecturers, reducing booking time by 50% using Angular and .NET Core technologies.
- Enhanced performance of a PostgreSQL database handling 900+ weekly reservations, boosting query efficiency by 30%.
- Collaborated in a cross-functional team with Azure specialists to introduce role-based access control and leverage Azure Multi-factor authentication.

Full Stack Developer — Whiting School of Engineering

Sep 2022 – Mar 2024 | Baltimore, MD

- Designed and engineered a multi-page web application using a modern tech stack (Gatsby, Node.js, TypeScript, Tailwind CSS, GraphQL, Jenkins), deployed on AWS Amplify.
- Built testable, scalable software and implemented automated testing pipelines using Jest, Prettier, and ESLint.
- Optimized CI/CD workflows using GitHub Actions, reducing deployment time by 80%.
- Developed 20+ reusable React components and 60+ dynamic pages with custom graphics and animations.

AI Researcher — Bloomberg School of Public Health

Jan 2024 – Nov 2024 | Baltimore, MD

- Enhanced Python-based AI system to analyze over 14,000 satellite images, facilitating the detection and mapping of 300+ cooling towers in Baltimore.
- Enhanced system reliability by implementing fault prevention measures, automated API fallbacks, and rate limiters. Ensured processing capacity for over 14,000 satellite images concurrently.
- Upgraded handling of deprecated APIs in Flask-based web component for mapping services.
- Increased detection accuracy from 50% to 91% by integrating multiple satellite data sources.
- Tripled processing speed through the implementation of GPU acceleration and parallelization techniques.

Unity 3D Developer — Johns Hopkins Hospital

Aug 2023 – Apr 2024 | Baltimore, MD

- Developed peripheral vision early stroke detectors using Unity3D for Microsoft HoloLens 2.
- Transferred Python stroke detection algorithms to C# for real-time execution on Microsoft HoloLens 2, reducing latency by 30%.
- Worked with Microsoft Azure experts to create a secure backend infrastructure for HIPAA-compliant processing and management of patient test results.

Education

- **Johns Hopkins University** — Master of Science in Computer Science
- **Johns Hopkins University** — Bachelor of Science in Computer Science