**BAZIL** **AKRAM**

Harrisburg, PA |717-409-4050 | [mbazilakram@gmail.com](mailto:mbazilakram@gmail.com) | <https://bazilakram.github.io>

U.S. Citizen — DoD Secret Eligible

CS graduate with experience in C++, C#, Python, Java and JavaScript. Strong OOP fundamentals, Agile SDLC, and testing/documentation practices. Comfortable with Git workflows, code reviews, and testable design. Background includes building research tools, computer vision pipelines, systems integration, and operational tools for real users.

##### **Experience**

**Computer Science Intern**, *Penn State Health* — *Jan 2024 – May 2025*

* Designed and shipped user data management app for physician workflows, supporting live edit/view for physician workflows; delivered in iterative sprints with ticket tracking and code reviews.
* Automated internal document handling using Power Automate and SharePoint, reducing manual load for staff and increasing reliability of internal records.
* Developed DSST-based cognitive assessment interface now in use by internal research teams.
* Evaluated DB technologies for long-term scale-up of internal records system; contributed to tool migration plan.

##### **Selected Projects**

**Rodent Trajectory Tracker (Capstone)**  
*Python, DeepLabCut, OpenCV.js*

* Built a CV pipeline to detect and track a rat’s head and limbs across maze videos using DeepLabCut.
* Reduced human labeling effort by overlaying predictions on video in real-time using OpenCV.js and a custom canvas layer.
* Developed CSV-to-video playback tool with toggleable overlays (trails, segmentations, grid).
* Deployed front-end interface enabling research teams to adjust playback speed, filter segments, and export video.

**Cognitive Abilities Testing Tool**  
*Power Apps, Power Automate, SharePoint*

* Created DSST-style cognitive testing platform used by clinicians for behavioral evaluation and scoring.
* Automated scoring and data logging pipelines using Power Automate, enabling data sync with SharePoint lists.
* More than halved testing workflow time with real-time scoring and clinician-friendly GUI.

**Clearance Tracker**  
*C#, .NET, Blazor Server, EF Core, SQLite*

* Built a role-tracking tool with state machine logic to manage clearance statuses (Pending → In Progress → Approved/Rejected).
* Designed Blazor front-end with interactive components (Advance, History modal, New Person form).
* Implemented audit logging with EF Core and SQLite, recording state transitions with timestamps and comments.
* Added dashboard statistics (counts, % approved) and unit tests (xUnit + EF InMemory) for core logic.
* <https://github.com/BazilAkram/ClearanceTrackerApp>

**US County Data Explorer**  
*JavaScript, Leaflet.js, Node.js, REST APIs*

* Built interactive map application displaying county-level demographics (population, density, education, broadband, race, age, income).
* Implemented county selection (click or lasso), multi-county aggregation, and state-level autofill for comparative analysis.
* Automated data enrichment via Census ACS API and Mapshaper-prepared GeoJSON, with preprocessing in Node.js, Integrating Census Bureau’s RESTful ACS API for real-time demographic data ingestion and preprocessing.
* <https://github.com/BazilAkram/US-County-Data-Explorer>
* <https://bazilakram.github.io/US-County-Data-Explorer/>

**Tenant Maintenance Request System**  
*React, Node.js, SQL, JavaScript*

* Built full-stack request management system with separate user roles (tenant, admin, maintenance team).
* Designed modals for request creation and status tracking with real-time database sync.
* Enabled tenant transfers, account deletion, and team reassignment through a unified admin panel.
* <https://github.com/BazilAkram/Maintenance-Request-System>

**SUN Lab Access System**  
*Node.js, SQL, HTML/CSS, Python, TKinter*

* Developed front-end and back-end logic to log students in/out of computer labs and record time entries.
* Built audit trail functionality and account control panel with suspension/reactivation toggles.
* <https://github.com/BazilAkram/SUN-Lab-Access-System>

**User Dashboard + Data Filtering Tools**  
*React, REST APIs*

* Created dynamic user dashboard pulling from a fake user API with real-time filtering by multiple attributes.
* Enabled profile card rendering with expandable metadata and responsive layout.

##### **Education**

**Pennsylvania State University**  
*B.S. in Computer Science* — May 2025

##### **Technical Skills**

**Languages**: C, C++, C#, Python, Java, JavaScript, TypeScript, SQL, MIPS

**Platforms/OS:** Linux, Windows, PowerShell

**Frameworks/Libraries**: React, Angular, Vite, Vue.js, Next.js, Django, Three.js, Bootstrap, Materialize, Bulma

**Tools**: Power Platform, SharePoint, Git, OpenCV, YOLO, DeepLabCut

##### **Awards**

• Witham Trustee Scholarship — Merit-based academic award

• CWC First Year Award — Selected for top first-year academic performance