THOMAS BIDNE

Software Engineer

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EXPERIENCE

Senior DevSecOps Engineer

BridgePhase

March 2016 – Present USCIS, Washington D.C.

I support the Electronic Immigration System (ELIS). ELIS is a web application that provides USCIS officers the ability to process cases corresponding to a person applying for a USCIS benefit (e.g. US Citizenship, Permanent Resident ("green card")).

- The frontend is AngularJS.
- The backend is Java/Spring with an Oracle database.
- Continuous Integration/Development utilizes Jenkins.

I maintain several microservices, one of which my team completely controls. Technology includes:

- Angular/Typescript.
- PostgreSQL.
- Docker.
- Openshift.

Additionally, I:

- Single-handily maintain a RHEL virtual machine used for testing.
- Participated in multiple "tiger teams", for creating cross-team solutions.

Software Engineer

GBL Systems

May 2013 – February 2016 NAS Pax River, Patuxent MD

I worked on the Next Generation Threat System (NGTS). NGTS is a real-time distributed simulation, modeling real-world aviation scenarios, primarily written in C++ with Qt. Responsibilities included:

- Implementing network plugins using protocols such as TCP and UDP.
- Provided network support for new features (e.g. new planes, radar systems).
- Integrated NGTS with third party software. This included designing/implementing APIs and travelling to customer sites to provide support.

STRENGTHS

Distributed Systems | Networking | Full-stack development

Java, C++ | JavaScript, Typescript, Ruby | Haskell, Stack | Git, GitHub/lab | Windows, OSX, Linux | Docker, Open Shift | Jenkins, Travis CI

EDUCATION

B.Sc. in Computer Science

University of Maryland, College Park

2009 – 2013

- Minor: Astronomy
- Graduate of College Park Scholars
- Selected Coursework:
  - Software Engineering
  - Networks
  - Algorithms and Data Structures
  - Cryptology
  - Number Theory

PROJECTS

I have created several personal projects in Haskell, ranging from pure learning exercises to useful utilities. Projects include:

- Crypto CLI application implementing vanilla AES and RSA.
- Web application for solving sudoku puzzles. The frontend is React/Typescript, backend is Haskell/Servant, Postgres.
- CLI application to parse text events and display results as .png graphs over time (e.g. Running pace).
- General dev utils project that includes the following functionality:
  - Runs CLI commands asynchronously.
  - Fast-forwards all local git branches on a given branch.
  - Finds and prints "stale" git branches, organized by the last commiter.

As a result I have gained experience in the following Haskell libraries / idioms:

- QuickCheck, Hedgehog property tests.
- MTL, the "Freer" monad.
- Refined Types, LiquidHaskell.

Further discussion of each project can be found on my website:
https://tbidne.github.io/blog/projects

References available upon request