

Thomas Carmichael

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WORK EXPERIENCE

- **IBM** June 2021 – Present
Cloud Software Developer Austin, TX
 - Projects with IBM Cloud, microservices, and APIs.
- **PROS** January 2020 – June 2021
Software Engineer Houston, TX
 - Built services responsible for data flow management using tools and designs such as: REST API, SDKs, CLIs, and Microsoft Azure Cloud Platform.
 - Upgraded a Scala connector service to allow our Spark Streams to use Azure Delta Lake for ACID transactions.
 - Deployed microservices using GoCD and Kubernetes Helm charts and monitored deployments through the deployment realms.
 - Integrated TypeScript to my back end teams APIs. This allowed our front end team to consume our types, reduced errors, and enabled us to catch errors before runtime.
 - Successfully migrated our Kubernetes helm charts from v2 to v3 and used Azure Kubernetes Service (AKS) to redeploy our services in each realm.
- **UH CBL – Computational Biomedicine Lab** May 2018 – September 2018
Graduate Research Assistant Houston, TX
 - Coordinated version control for the Computational Biomedicine Lab (CBL) projects using GitLab, Git, and BibSync, an in-house bibliography syncing server. Managed CBL's blog, wiki pages, and website.
- **NASA – Johnson Space Center** August 2017 – May 2018
Software Engineer Intern Clear Lake, TX
 - Designed a searching algorithm and GUI using JavaScript and JQuery for 10 members of the Operating Systems and Security Division. This tool allows the team to coordinate tasks more effectively.
 - Solved an ongoing security vulnerability in a legacy code and received a personal email from the department's president for helping to resolve this issue.

EDUCATION

- **University of Houston** December 2019
Master of Science in Computer Science; GPA: 3.7 Houston, TX
- **University of Texas at Austin** December 2014
Bachelor of Science in Human Biology; GPA: 3.4 Austin, TX

PUBLICATIONS

- Dai, G. Paluri, P. Carmichael, T. Cheng, A. Miikkulainen, R. "Leveraging the Selfless Driving Model to Reduce Vehicular Network Congestion", 40th International IEEE Real-Time Systems Symposium (RTSS). Hong Kong, China. December 2019.

PROJECTS

- **Material Prediction Using Unsupervised Machine Learning:** Primary Language(s): Python
 - Predicted object material types using K-Means Clustering on WiFi and BLE signal data. Data Visualizations as well as code for predictions are available on GitHub.
- **Building a UNIX Shell:** Primary Language(s): C, C++
 - Created a custom shell in C/C++. Building a personal shell allows for terminal customization options as well as an understanding of parallel processes, multithreading, and concurrency.

PROGRAMMING SKILLS

- **Proficient:** JavaScript, TypeScript, Python, MongoDB, CosmosDB, REST API, Linux, Git, Docker, Azure Cloud Services
- **Familiar:** Scala, Java, Apache Spark, Kubernetes, GoCD, RDBMS, SQL/mysql, Redis/Caching, DataBricks, CI/CD