

## Daniel Terrence Choi

Monrovia, MD 21770

718.635.2097

dtchoi86@gmail.com

> Proficient in Software Development, Data Science, and Agile Methodologies  
> Technical Lead @ SALT Lending  
> Soldier in the United States Army Reserves  
> Lifelong Learner

### SUMMARY

Dan specializes in software development, data science, and study design. In these capacities, he has worked on a variety of government contracts and ran staff training. He is also a dedicated Soldier in the US Army Reserve, and he volunteers at the Walter Reed National Military Medical Center in his free time.

Dan is a huge Rust (Programming Language) enthusiast. You may find him frequently reading up on anything Rust related on Reddit or the official Rust forums.

### EXPERIENCE

#### Salt Lending » Remote

##### Technical Lead and Senior Architect » Apr 2022 to Present

Improving the infrastructure that allows users to take out personal and business loans backed by cryptocurrencies.

- Stopped foreign adversaries attacking AWS Cognito endpoint with lambda@edge and Cloudfront; stopping financial bleed of the company estimated @ ~\$6K per day

Current initiatives:

- Re-architecting the SALT infra for B2B: multi-tenant and scales better with developers
- Automating the loan origination process concurrently

#### United States Army Civil Affairs and Psychological Operations Command (USACAPOC) » Bristol, PA

##### Civil Affairs Military Government Specialist (Functional Specialty) » Jun 2022 to Present

Responsible for advising, enabling, and assisting commanders and their direct civilian counterparts with stabilizing and providing governance expertise until appropriate civilian control is possible.

#### Public Health Chief (Functional Specialty) » Oct 2010 to Jun 2022

Responsible for the assessment, planning, collaboration and execution of routine, emergency, veterinary, and preventive medicine civil-military operations in collaboration with host nation government, security forces, non-governmental organizations, and U.S. Government agencies.

#### Officer in the US Army Reserve » Oct 2010 to Present

Previously, managed a unit of 62 soldiers as a Commander. Directs timely processing of pay, conducting and coordinating annual evaluations, maintaining the unit's medical readiness at the Brigade's standard of 85%, and ensuring all other deadlines are met. Mentors three officers and 10 non-commissioned officers. Serves as the suicide prevention officer for the unit and sister units in the Maryland area.

#### id.me » Washington, DC (Remote)

##### Technical Lead (Tiger Team) » Mar 2022 to Apr 2022

Responsible for improving the infrastructure (minimizing downtime and improving speed) that helps over 60 million users verify their identity. Left after only one month to pursue a career in fintech.

- Improved the throughput of web services by replacing a SIDEKIQ with a C ABI (Rust FFI)

#### Ad Hoc » Washington, DC (Remote)

##### Staff Software Engineer and Technical Lead (Next Generation) » Oct 2021 to Mar 2022

Led a team responsible for assisting approximately 20 teams of developers better integrate to back-end services through unifying APIs and enabling data interoperability.

- Initiated the refactoring a major monolithic web application into independent (micro) services to better scale developers, cut cost, and improve security posture
- Created an API that monitors the health of upstream data sources and provides data serialization and deserialization to various data formats

##### Staff Software Engineer and Technical Lead (Beneficiary Claims Data API) » Jan 2021 to Mar 2022

Led a team in building and improving Fast Healthcare Interoperability Resources (FHIR) APIs to enable Accountable Care Organizations (ACOs) to promptly and seamlessly retrieve Medicare claims (Part A, Part B, and Part D) data for their beneficiaries.

- Leading a team of four software engineers -- one from a subcontractor -- responsible for maintaining and improving the [Beneficiary Claims Data API](#)
- Made additions to the codebase to serve Assignment List Report (ALR) data designed to provides ACOs with beneficiary identifiable information on their assigned population
  - Unlike claims data, this requires data wrangling
- Wrote technical specifications to improve the worker instance of the API responsible for fetching and packaging data from upstream data-source
- Run weekly code-reviews designed to review complicated PRs and to train on new technology stacks
- Provide one-on-ones with each of the engineers focused on growth and well-being
- Added support for FHIR Version R4 (newer version)
- Showcased possible performance gains by replacing some of the Go code-base with Rust
- Aggregated dozens of environments variables into a single instance to reduce expensive OS calls

## **IBM » Washington, DC**

### **Senior Software Engineer and Technical Lead » Nov 2014 to Jan 2021**

Worked as a technical lead for the Center of Drug Evaluation and Research of the US Food and Drug Administration; led a team developing new software technologies in data analytics to improve the effectiveness and efficiency of regulatory review (i.e., drug evaluation)

- Led a team that created and maintained a web application used by regulatory reviewers for assessing the safety of the Pfizer/BioNTech COVID-19 vaccine
- Improved user experience through automation and UI programming
- Replaced proprietary programs with software built on open-source technologies
  - SAS, Tableau, and Spotfire -> Python, Rust, C, JavaScript (D3js), and R
- Expanded support for multiple data format and structure through meta-programming
- Improved organization of legacy data repository by creating a systems-level program that crawls and indexes a complex web of folders for specific clinical trial data
- Streamlined development processes and transparency by implementing Agile methodologies
- Minimized deployment delays and lowered downtime through CI/CD
- Advocated for developers' growth by holding weekly code review, holding monthly (and more frequently if needed) training sessions, and collectively attending tech conferences

## **Luminpoint Inc., MANILA Consulting Division » McLean, VA**

### **Statistical Programmer and Biostatistician » Jul 2011 to Nov 2014**

Served as the principal consultant for statistical programming, data modeling, data analysis, and study design and evaluation. Cleaned data and conducted data analysis to make predictions. Performed consistency-checks for QA. Provided technical support and solutions to complex problems on a number of contracts and task orders from various Federal Agencies.

- Cleaned and processed a large CDC database to better extract and understand performance indicators
- Improved turnaround time of task above by automating processes through SAS MACROS and PROC DATA/SQL
- Conducted thorough data analysis for DOT on visual impairment and its risk of traffic accidents
- Developed guides for CDC grantees aimed at improving monitoring and evaluation data reporting
- Simplified NHBS (National HIV Behavioral Surveillance) research by creating an EndNote database
- Gathered survey data for US Medical Eligibility Criteria to assist healthcare providers with contraceptive counseling

## **GWU: Milken Institute School of Public Health » Washington, DC**

### **Research Associate and Teaching Assistant » Sep 2009 to Jun 2011**

Actively participated in professional development through internship, work, and teaching. Collected data, designed studies, visualized data geographical for disease patterns, programmed statistical models, and conducted data analyses.

- Took two scientific papers from conception to publication
- Helped students demonstrate proficiency in constructing and managing databases and applying biostatistical concepts

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For more information about me, please visit: <https://www.linkedin.com/in/danieltchoi/>

- Found statistically significant health disparity through geospatial analysis, and made results available to policy makers
- Contributed to better understanding of behavioral risk of HIV infection by conducting structured interviews

## EDUCATION

### GWU: Milken Institute School of Public Health » Washington, DC » May 2011

- Degree: Masters in Biostatistics
- Other Coursework: geographic information system, health policy, surveillance, and environmental and occupational health

### GWU: Columbian College » Washington, DC » May 2008

- Degree: BA in Cognitive Psychology; Minor in Korean Language and Literature
- Other Coursework: biological, physical, social sciences, and military science

## SKILLS

### Top Languages

- Rust, Go, C

### Computer Languages

- JavaScript, Python, R, Ruby, SQL, x86 Assembly, SAS, SPSS

### Spoken Language

- English, Korean

### Other

- Linux, Windows, Docker, D3js, Node.js, Bash, Neovim/Vim, OAuth2, Statistical Methods, Machine Learning, Web Development

## PUBLICATIONS

Porter CK, **Choi D**, Cash B, Pimentel M, Murray J, May L, Riddle MS.

Pathogen-specific risk of chronic gastrointestinal disorders following bacterial causes of foodborne illness.

- Demonstrated the risk of chronic illnesses following bacterial enteric infections

Porter CK, **Choi D**, Riddle MS.

Pathogen-specific risk of reactive arthritis from bacterial causes of foodborne illness.

- Identified possible links between Reactive Arthritis and bacterial infections

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