Conner M. McNicholas

E-MAIL: connermcnicholas@gmail.com   PHONE: (408) 355-5410

HOME ADDRESS: 2950 Pleasure Point Dr, Santa Cruz, CA 95062

WEBSITE: HTTPS://CONNER-MCNICHOLAS.GITHUB.IO/HOMEPAGE/

PROFESSIONAL EXPERIENCE

Data Engineer (KDB+) | *Ernst & Young | San Francisco, CA (remote)*   **FEB 2021 - JULY 2021**
- Served as q/KDB+ expert on behalf of the EY team contracted by a large utilities provider client.
- Delivered interactive dashboard frontend solution to unlock IOT data insights for executive leadership.
- KDB+ data warehouse ingested several distinct data feeds across millions of live customer devices.
- Wrote q code responsible for system maintenance, APIs, ETL tasks, and domain specific analytics.
- Hosted in AWS cloud, tapping into technologies of that stack (EC2, S3, Lambda, etc).

Database R&D | *Freelance | San Francisco, CA*   **JAN 2020 - JAN 2021**
- Provided testing, benchmarking, technical documentation, to next-gen database startup, Shakti (www.shakti.com).

Data Warehouse Developer | *BitMEX | San Francisco, CA*   **DEC 2018 - AUG 2019**
- Implemented ETL pipelines in AWS to pull data from disparate sources into cleaned, consistent, consolidated Redshift data warehouse
- Practiced best in industry protocol in privacy, security, encryption, fault tolerance, high throughput, ultra low latency transmission
  - Precious cargo being **> 100TB** representing **trillions** in annual $USD turnover
- Worked with product managers to plan product roadmaps for Data Engineering and Data Science initiatives.
- Delivered custom data analytics solutions for internal stakeholders on an ad-hoc basis.
- Interviewed candidates for Data Engineering and Data Science teams.

Data Engineer (KDB+) | *BitMEX | San Francisco, CA*   **MAR 2018 - DEC 2018**
- Resident q/KDB+ expert for SF Engineering division, which included leading training programs for all internal departments.
- Sole liaison between SF software development efforts and Hong Kong based KDB+ trading engine development.
- Executed quantitative analysis of cryptocurrency options trading data (natively q/KDB+) for CEO.
  - Published example: https://blog.bitmex.com/bitmex-leverage-statistics-april-2019/

Data Engineer (KDB+) | *Kx Systems | NY, NY + Chicago, IL*   **JAN 2015 - MAR 2018**
- On-site KDB+ consultant in the stock market surveillance space to exchanges (**IEX, CME**) and proprietary trading firms (**CTC**).
- Developed platform to monitor exchanges for market manipulation in real time, with ultra low latency alerting.
- Built custom interactive front end dashboards for the KDB+ complex event processing engine backend.
- Domain focused on high frequency trading across a diverse set of instruments, from equities to exotic derivatives.
- Engaged throughout the full software development lifecycle, from authoring product requirements docs to post-launch support.
- Led q/KDB training for financial institutions and Masters-level *Computational Finance* programs (**University of Southern California**).

Mechanical Engineer | *Ingersoll Rand | TX + NC + WA*   **JUL 2010 - AUG 2014**
- Three rotations in Ingersoll Rand's "Accelerated Development Program", which aims to develop future leaders of the business.
- 1 Redesigned key airflow component for efficiency, aesthetics, and **>$2M** productivity savings **(U.S. Design Patent No. D683,841).**
- 2: Standardized Program Management and *New Product Development* (**NPD**) process for every business unit across the enterprise. Curated and presented monthly program status reports for most critical programs (>**$300M invested annually**) to C-Suite executives
- 3: Designed custom engineered solutions for heavy machinery used in high capacity lifting applications, designed and implemented productivity projects achieving annual savings **over $400K**.

COMPETENCIES

Programming languages: q, k, Python (pandas, numpy), SQL, Bash, Shakti (k9)
Database: KDB+, AWS Redshift, Apache Spark/PySpark, Hadoop, Shakti, RDS, DynamoDB, Postgres, S3, XML, JSON
Tools: Airflow, Kafka, Kubernetes, Docker, Jupyter, Kx Systems Stack, Tableau, conda, SSH, vim, sed, awk, htop, psql, git, cron, REST
Cloud: Amazon Web Services, Microsoft Azure, Google Cloud Platform, Terraform
Operating Systems: GNU/Linux, Microsoft Windows, macOS

EDUCATION

Lehigh University, Bethlehem, PA   **MAY 2010**
- B.S. Mechanical Engineering, Minor in Business

Springboard Bootcamp   **NOV 2021-APR 2022**
- Data Engineering Track