

Henry Tao

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Objective:

Obtain a position with an innovative IT team that will enable me to use my strong systems integration skills and apply design principles such as event sourcing and domain driven design to build predictable real-time systems and applications.

Summary:

I am a determined and highly-motivated developer and database expert with twenty years experience ranging from startups to large enterprise organizations. I am a relentless learner who craves to build elegant highly performant backend systems as well as beautiful user-focused client applications.

Expertise and Key Skills:

Actively Using

Scala(2.12); Akka Streams(2.5); C++(11, 14); ECMAScript(6, 7); C#(3, 6); React(16); React Native(0.55.4); Node.js(5, 6, 10); Cassandra(3.11); PostgreSQL(9.6, 10); MongoDB(3.2); Solr(8); SQL Server(2008, 2012); WCF(3.5); Docker(18.09)

Used in Past

D3.js(3.5)²⁺ (2013); Angular.js(1.3)²⁺ (2015); Oracle(10G)¹⁺ (2009); Backbone.js²⁺ (2014); Python¹⁻ (2014); C¹ (2011); Reporting Services³⁻⁴ (2010); WPF¹ (2011); Silverlight² (2011); Windows Forms² (2008)

Professional Experience:

NYU Langone Health, New York, NY

Lead Developer, Research IT 2013 - Present

- Designed and implemented real-time patient demographics database backed by Cassandra (5 node, 2 datacenter cluster) and built on top of Akka Streams.
 - Developed seamless HL7 to Cassandra UDT adapter for upstream persistence.
 - Downstream applications include real-time demographic updates and analytics using Spark. (Proposed)
 - Downstream databases include PostgreSQL allowing for horizontal application software development. (Proposed)
 - Downstream search engine include Solr allowing for free-form patient and study lookup. (Proposed)
- Designed and deployed MongoDB sharded cluster with 15 database instances (5 replica sets with 3 instances each), 5 config servers, and 5 mongos across 5 servers.
 - Allows the consumption and processing of HL7 (ADT_A08 & ADT_A31) messages; 30K per day/2.5MM per month.
 - Easily retain TB's of storage.
- Designed and implemented the Research Integration Layer that propagates real-time updates across multiple application domains including:
 - Epic EHR (Electronic Health Record)
 - Study creation in Epic from CRMS
 - Patient enrollment in Epic from CRMS
 - Synchronization of patient demographics between Epic and CRMS
 - PeopleSoft Finance
 - Proposal and award creation in PeopleSoft from Grants
 - Payment creation in CRMS from PeopleSoft
 - REDCap (Data Capture for Research)
 - Creation of specimen sample data in REDCap from LabVantage

- IRB (Internal Review Board)
- CRMS (Clinical Research Management System)
- IACUC (Institutional Animal Care and Use Committee)
- Selectica (Research Contract Management)
- Sensus (Animal RFID Cage Card Census)
- Wellspring (Intellectual Property Management)

Fluitec Wind, Jersey City, NJ

Front-end Lead Developer 2012 - 2013

- Developed custom interactive data visualizations for post-process Hadoop resultsets of wind turbines

UNFCU, Long Island City, NY

Consultant 2009 - 2012

- Developed and implemented mission critical ETL that powers the enterprise data-warehouse
 - Replaced incumbent solution that took 17+ hours daily to complete and reduced it to 45 minutes

Ellen Tracy, New York, NY

Systems Integration Specialist 2008 - 2009

- Integrated 2 major retailers to enterprise Oracle ERP

UNFCU, Long Island City, NY

DBA and DWH Report Writer 2006 - 2008

John Wiley & Sons, Hoboken, NJ

Senior Systems Analyst and Programmer - HRIS 1999 - 2005

National Financial Services, New York, NY

Mutual Fund Representative 1997 - 1999

JET Programme, Awaji Island, Japan

Assistant English Teacher 1995 - 1997

Education:

SUNY at Buffalo, 1990 - 1994

Bachelor of Science (BS), Finance and MIS, Summa Cum Laude

Projects:

Cassandra-UDT-Codec-Helper, 2018 - Present

- Transform Scala classes to Cassandra UDT seamlessly

HL7-Cassandra-Adpater, 2018 - Present

- Persist raw HL7 V2 messages to Cassandra UDT's in Scala

HL7-Downstream, 2018 - Present

- Unified interfaces for data-driven applications with a focus on HL7 in Scala

React-Native-Responsive-Grid-Demo, 2018 - Present

- WIP patient management mobile app

Oauth2-Server-Redis, 2017 - 2018

- OAuth2 server based on OAuth2orize with Redis as session store

LongBall-FHIR, 2017 - 2018

- FHIR Modeling in C++14

Store, 2016 - Present

- Common API for implementing event sourcing and event store. Comes in 2 flavors:
 - C++11
 - C#

Rx-Web, 2016 - 2018

- Web server implementing observable semantics. Comes in 2 flavors:
 - C++11
 - ECMAScript 7

Vinyl, 2017 - 2018

- Yet another React primitive components library

React FHIR, 2016

- FHIR Application built with React/Redux

DocGraph, 2014

- Process 132 Million edges from Medicare using Hadoop and HBase inside a cluster of Docker containers