KHINSHAN **KHAN**

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Skills

Languages	Typescript, Javascript, Golang, Python, HTML, CSS
Frameworks	React.js, Next.js, Gatsby.js, Chakra UI, Material UI, Express.js, Flask
Environments	AWS, Netlify, Digital Ocean, tRPC, GraphQL, Rest, DynamoDB, PostgreSQL

Work Experience

Kiip, PBC
Brooklyn, New York

SENIOR SOFTWARE ENGINEER — *Dec. 2022-Present*

FOUNDING SOFTWARE ENGINEER — *Dec. 2021-Dec. 2022*

kiip.io and kiip.co (*AWS Lambda, S3, DynamoDB, Chime, GraphQL, Next.js, MobX, Javascript, Typescript*)

Kiip allows people to store digital copies of vital documents and share them in interactive data rooms when applying for services offered by the city or other public benefits and service providers, easing any potential times of crisis or extenuating circumstances.

- Setup engineering foundations ranging from separate amplify environments to DNS management to GitHub Actions to brown bags
- Designed scalable and resuable **React components** ranging from skeletal layout to chat messaging to meet **WCAG accessibility standards**
- Created a service for users to securely upload documents with 'zero knowledge' of its contents until a user with proper rights accesses it
- Established various **authorization models** for individual users to add assistants to work on their behalf to interact with representatives of organizations as well as varying levels of representatives of an organization
- Lead demos for stakeholders and investors, distilling technical information to intuitive formats such as diagrams, analogies, simplified personas

Two Bulls
Brooklyn, New York

SOFTWARE ENGINEER — *Jan. 2020-Jan. 2022*

Port Management Tool (*AWS Lambda, S3, DynamoDB, PostgreSQL, Golang, Typescript, React, Leaflet, Material UI, Node.js*)

Working with Seacor Holdings , several of their ports now have ship detection and corresponding port events handled and searchable automatically via this tool and added to billing for Helm Operations orders for cross-examination and detailed view of ships' paths.

- Led cooperative agreements with data providers to create new APIs and selectively clean noise, handling **1,000,000+ daily** AIS messages, as well as agreeable **TTL policies** for caching vessel particulars with custom round robin scheduled refetching data
- Implemented **scalable and resilient microservice architecture** (lambdas, databases (*DynamoDB →PostgreSQL*), S3, VPSs)
- Spearheaded aspects of the 'complex event processing' algorithm for port events and port calls with pipelines to smoothly incorporate new categorizations of vessels and geofencing which will affect port events used for billing
- Worked on client product for port call search and display summary with an interactive vessel path visualization
- Initiated an internal algorithm visualization playback, playing around **100,000 records as a smooth animation** at a time

Mailchimp Firebase Integration (*Typescript, Firebase, GCP, Mailchimp*)

Syncs user data with a Mailchimp audience for sending personalized email marketing campaigns. It was teased at Google I/O 2021 and presented at Google I/O 2022. The extension was open sourced by Mailchimp .

- Headed initial development for **alpha Firebase extension** and tests (unit, integration, E2E) with **GitHub Actions**
- Developed Firebase extension to bidirectionally synchronize with Mailchimp tags, audiences, and events for personalized marketing

Freelance
Queens, New York

SOFTWARE ENGINEER — *Jan. 2019-Jun. 2019*

NDA clients (*Python, Flask, Javascript, HTML, CSS*)

Beginning my career beyond just academic and open source, I sought out clients in the community to better understand needs vs wants and familiarize myself with a real-time requests and work that gets used.

- Social media account management script to ease posting on multiple platforms.
- Create a server-side rendered landing page to allow for easy updates of content and notifications.

Stealth Startup
Queens, New York

SOFTWARE ENGINEER INTERN — *Jul. 2015-Aug. 2015*

NDA startup (*MySQL*)

A stealth startup is a type of startup company that operates in quiet and silence to outsiders, avoiding public attention. This may be done to hide information from competitors, or as part of a marketing strategy to manage public image and generate expectations and interest from potential clients. This startup was business intelligence using SAP BusinessObjects and SAP HANA.

- Optimized sql tables.

Notable Projects

Emoji Helper *(Typescript, Mdast, Hast, Pnpm, Changeset)*   *GitHub*

Monorepo of packages published on NPM for custom emoji manipulation and utility, designed framework agnostic.

- **emoji-helper-core**: allows one to define a strongly typed map of emoji data to use in one's project from any source (Discord, Slack, GitHub)
- **emoji-helper-remark**: remark markdown transformer to replace :emoji: in text with jsx
- **emoji-helper-pack-github**: emoji pack using GitHub's assets

Kays *(Golang, PostgreSQL, Next.js, Chakra UI)*   *GitHub*

Keep **A**ll **Y**our **S**tuff: Managed Documents — Application and API service to securely upload and automagically analyze and tag documents for insights such as similarity percentage to other documents and categorization as well as provide an optimal search experience (in progress)

Political Atlas *(React, Material UI, D3.js Python, Flask)*   *GitHub*

Map To Politics — **data visualization** for textual (IBM Watson) versus vocal tone analysis of presidential speeches (DeepAffects).

- Managed the architecting, coding, and learning schedule for team of **3 new programmers** at a 2 week agile cadence
- Explored **webhooks, cronjobs, restful design, accessible design**, and securing VPSs with the team

Meiru   *GitHub*

WIP

Midas Menu   *GitHub*

WIP

Chrono Chime   *GitHub*

WIP

Bura   *GitHub*

WIP

Follower Integrity   *GitHub*

WIP

Potential Memory *(Flutter)*   *GitHub*

WIP

Sociaal   *GitHub*

WIP

Struo   *GitHub*

WIP

Styre   *GitHub*

WIP

Winkle Navi   *GitHub*

WIP

Rocawn   *GitHub*

WIP

red-ink   *GitHub*

Redirect and Link between discord servers made easy. Before Discord allowed cross server linking, this bot could link between servers and handle invites automagically.

Finder *(Flutter)*   *GitHub*

Tinder, but for Jobs. Fiverr + Tinder.

Real Time Drawing *(React, Material UI, Express, SocketIO, Heroku)*   *GitHub*

Leveraged sockets to create a turn-based real-time drawing game like skribbl.io

mcm-oss *(Python)*   *GitHub*

A simple and basic operating system simulation.

Hetio Net *(Python, MongoDB, Neo4j)*   *GitHub*

Simulation of Hetio Net, an integrative network of biomedical knowledge. This project populates and queries databases for relationships between compounds and diseases (relationships which aren't readily available)

- Determine the best databases based on query

OCamLisp *(OCaml, Menhir, OCamllex, Batteries)*   *GitHub*

Lisp interpreter implemented in OCaml

- Allows for REPL, chaining files, varargs, persistent and overwritten-able variables, complex and nexted symbolic expressions

Movie Dex *(Javascript, Amazon)*   *GitHub*

Amazon Alexa Skill to discuss and query movies from Amazon Movies

Graphics Engine: Mark II *(Python, ImageMagick)* *GitHub*

An engine to render graphics and animation scenes via a simple MDL

- Custom compiler and semantic parser to read simple MDL command scripts to export to .png or .gif files for graphics engine
- Tool transforms and animates shapes and curves, taking in preset commands with arguments or imports of .obj files
- Simulates realistic lighting and shading in a 4D space, optimized with z-buffer and backface culling

Brain Battles *(Python)* *GitHub*

Fun, brain-stimulating, exercises disguised as games. Users can connect with friends through the Team function, which allows groups of users to compare high scores and compete to be the top player in each game either across their team or worldwide

- Plan and implement reaction time game, a word search, and Simon

Dogs Ate Our Homework *(C, SDL2)* *GitHub*

A tetris game built using C and SDL2. The goal is to get the most points you can before time runs out or you reach the top of the map.

(S)hell of a Shell *(C)* *GitHub*

Shell simulation with C.

JAGDSE – Just Another Gosh Darn Search Engine *(Python, Flask)* *GitHub*

A search engine frontend interface where you can enter a search term and select where you want your search query to go.

- Specialized for Tastedive, Google Custom Search, YouTube, News

Project Ångström *(Python, Flask, uWSGI, Digital Ocean)* *GitHub*

Scouting website for FIRST Tech Challenge (FTC) use as well as for local teams internally

- Provide statistical analysis from The Orange Alliance to allow for greater insights

Polybius *(Typescript, React, Browser Extension, Browser APIs)* *GitHub*

Enable users to create rules and have the rules automatically apply for downloads

Miscellaneous

Ep 1: Authentication and Authorization , Guest *Spotify Podcast Episode*

Discussion about Authentication and Authorization including **Federated Login, SSO, JWTs**, and best practices.

TPH Tech Spotlight: What is Tailwind? , Spotlight Leader

Help programmers learn TailwindCSS, whether they've written 10 lines of code or have been coding and programming for 10 years.

TPH Tech Spotlight: What is Emacs? , Spotlight Leader *Posterity Write-up*

Introduce and guide programmers to editors with a focus on emacs, answering questions ranging from lisp to packages to window management.

Interests *uptogood.dev/writings*

Blogging, cooking, linguistics, mythology, puzzles, fallacies, automation

Education

Hunter College, The City University of New York *New York, NY*

BACHELOR IN COMPUTER SCIENCE, MINOR IN MATHEMATICS

Stuyvesant High School *New York, NY*

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