bobae kang

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Social scientist turned software engineer passionate for
web, data, and building quality & impactful software

🔧 skills

Experienced

- Component-based web UI (Vue.js, React.js)
- Container technology (Docker)
- Data analysis, visualization, and statistics (R, Python, SQL)
- Full-stack web (HTML/CSS, JavaScript/TypeScript, Node.js, Go)

Exploring

- Cloud computing
- Domain-Driven Design
- Deep learning/machine learning
- Functional programming

🏢 experience

Research Analyst at *Illinois Criminal Justice Information Authority (ICJIA)*   Oct 2017-present

- Design and build web-based solutions for the ICJIA Research & Analysis (R&A) Unit
- Provide advanced data analysis and statistics support for research projects
- Serve as a liaison between the R&A Unit and the ICJIA webmaster & IT team

∿ projects

Full-stack web API service ("Illinois Criminal Arrests API and Explorer")   Jan 2020-present

- (WIP) Building an API service with an accompanying GUI app to provide insights into the confidential criminal arrests data collected by Illinois State Police by securely serving >40 tables of annual statistics
- Microsoft SQL Server database, API server with TypeScript and Node.js/Express, UI client app with Vue.js, and documentation site with VuePress

R Workshop and User Group for ICJIA staff   Spring 2018-present

- Have founded and now leading an internal R User Group with ~10 participants via monthly meetings and an online forum to cultivate a collaborative work culture and build a knowledge sharing platform
- Trained several non-technical colleagues by setting up and leading a 6-week long workshop on R for research and data analysis

Full-stack web publication platform ("ICJIA Research Hub")   Jan 2019-Dec 2019

- Built a suite of web apps for the R&A Unit to publish criminal justice data and research that expedites the publication process from days to minutes by removing ad hoc communication between researchers and IT
- CMS/API server with Node.js/Strapi & MongoDB, two internal use UI apps & public UI app with Vue.js, and documentation site with VuePress

Dashboard self-hosting infrastructure   Fall 2019

- Implemented an infrastructure to empower ICJIA to self-host R Shiny and Tableau dashboard applications by the R&A staff and save costs

Data product maintenance tool   Summer 2018

- Modernized an internal process for compiling dozens of criminal justice datasets to publish by replacing an manual process with a command-line Python application that expedites the updating process for each dataset from hours to minutes

Data dashboard   Summer 2018

- Built and maintained an R Shiny dashboard to provide hundreds of its viewers since its launch with insights into over 30 years of Illinois Uniform Crime Records Index Crime offense data

Allstate's University Hackathon Competition   Feb 2017

- Won the 1st entrant from the University of Chicago by fitting a neural network model in R to predict the next "life event" given an ordinal sequence of 1.1M previous life events

🎓 education

The University of Chicago, MA in Social Sciences (GPA 3.925/4.0)   Aug 2017

- Emphasis on Computational Social Science and quantitative methodologies

Colgate University, BA in Sociology & Anthropology (GPA 3.93/4.0)   May 2016