



## SKILLS AND TECHNOLOGIES

<b>Languages</b>	Python, TypeScript, Clojure, SQL, Bash
<b>Tools &amp; DevOps</b>	Docker, Git, Neovim, Postgres, AWS (EC2, S3, CloudFront, Elastic Beanstalk), GitHub Actions
<b>Backend</b>	Node.js, Express, FastAPI, Jest, Pytest
<b>Frontend</b>	React, Tailwind CSS, HTML/CSS, JavaScript, Vite
<b>AI</b>	LLM agent systems, agentic workflows, prompt engineering, MCP, OpenAI, Anthropic, OpenRouter, LiteLLM, Ollama, llama.cpp

## WORK EXPERIENCE

<b>Sep 2023–present</b>	<b>Founding Software Engineer   AbanteAI</b> Built <a href="#">mentat.ai</a> , a GitHub bot that writes and reviews pull requests using LLMs. <ul style="list-style-type: none"> <li>• Achieved state-of-the-art performance on SWE-bench lite benchmark (July 2024)</li> <li>• Designed and implemented hosting infrastructure including CI/CD pipeline, server hosting, CDN layer, and worker provisioning</li> <li>• Continuously optimized agent performance by refining prompts, environment, and tool interfaces based on log analysis</li> <li>• Directly engaged with users via Twitter and Discord to gather feedback and promote product adoption</li> </ul>
<b>Oct 2021–Sep 2023</b>	<b>Software Engineer   The Arena Group</b> Developed backend systems and commenting functionality. <ul style="list-style-type: none"> <li>• Led launch of <a href="#">rojo.com</a>, a community platform for user engagement across Arena Group sites.</li> </ul>
<b>Feb 2016–Apr 2017</b>	<b>Software Engineer   Google</b> Contributed to Firebase platform, focusing on Dynamic Links and related products.

## EDUCATION

2017-2021	Math PhD program at the Ohio State University (left with masters) Specialization: Random Matrix Theory
2012-2015	B.S. at the University of Chicago Major: Math GPA: 3.72

## PUBLICATIONS

Koenig, J. & Nguyen, H.. *Rank of Near Uniform Matrices*. Journal of Combinatorics, 13(3): 397–436 (2022)

Bhargava, A., DePascale, J. & Koenig, J. *The Rank of the Sandpile Group of Random Directed Bipartite Graphs*. Annals of Combinatorics, 27, 979–992 (2023).

Koenig, J. (2022). *Exponential Growth for Babies*. Self-published children's book. <https://www.amazon.com/dp/B0BMJQ8X5L>