

# Nicholas DeGroot


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## ABSTRACT

An experienced AI engineer and full-stack developer with a track record of shipping machine learning products from research to deployment. I thrive at the edge of technology and find joy in tackling the world's toughest problems. Currently seeking high-impact positions in early-stage startups with innovative ideas.

## EXPERIENCE

- **Digs**  Oct 2022 - Current  
Senior Software Engineer Vancouver, WA | May 2023 - Current
  - Launched [Dollhouse](#), enabling 3D visualizations of 2D blueprints in the browser
  - Launched [AskDigs](#), enabling Q&A against construction documents using a novel RAG architecture
  - Merged fixes for several upstream open-source libraries, including HuggingFace Transformers & Drei

Computer Vision Consultant Remote | Oct 2022 - May 2023

  - Designed and trained custom PyTorch image models for blueprint segmentation (rooms, structures, etc.)
  - Fine-tuned existing multi-modal models for accurate room name prediction
  - Developed an automated infrastructure-as-code based CI pipeline to deploy through multiple cloud providers
- **Stream**  Jan 2019 - Sep 2022  
L3 Software Engineer Remote | Apr 2022 - Sep 2022
  - Migrated internal analytics storage to Snowflake using a custom ETL pipeline
  - Deployed Looker analytics with custom data models for business reporting and enterprise exports

L2 Software Engineer Remote | Jun 2021 - Apr 2022

  - Developed AR-backed video calls, allowing technicians to easily take measurements remotely
  - Designed browser-based algorithms for common CV tasks such as edge detection


Software Engineer Consultant Remote | Oct 2019 - Jun 2021

  - Trained a custom TensorFlow model to find & label model numbers in images of appliances
  - Created a lightweight embeddable version of a React app for use in external CRMs

Software Engineer Intern Portland, OR | Jan 2019 - Sep 2019

  - Developed internal tools for common administrative tasks, such as adding and editing users






## EDUCATION

- **University of California, San Diego**  GPA: 3.983  
B.S. Data Science GPA: 3.980  
B.S. Cognitive Science (spec. Neural Computation / Machine Learning) GPA: 4.000
  - Summa Cum Laude (Top 2%)

## TOOLS & TECHNOLOGIES

- **ML/AI** - PyTorch, TensorFlow, HuggingFace, OpenCV, Pandas, Dask, Shapely, Jupyter Notebook
- **Data/Infra** - AWS, GCP, Azure, Docker, Terraform/CDKTF, GitHub Actions, PostgreSQL, Snowflake
- **Languages** - Python, TypeScript, JavaScript, Swift, Kotlin

## PROJECTS

- **Personalized Recipe Recommendation Using Heterogeneous Graphs** March 2023  
Tools: PyTorch, Graph DBs, Figma  
- **Course Arrival** February 2021  
Tools: React, PostgreSQL, Go, Pandas  
  - Winner of SD Hacks 2021 Wolfram Alpha & Best Use of CockroachDB prizes
- **Homeroms** July 2018  
Tools: React Native, Expo, Firebase 

## PATENTS

- [P.1] Pavan K. Kamaraju, Nicholas DeGroot (2024). [CONTEXT AWARE MEASUREMENT](#). Patent Office, Patent No. 12,154,289. Registration Date: 11/05/2021, Grant Date: 11/26/2024, Publication Date: 05/11/2023.
- [P.2] Sean M. Adkinson, Nicholas DeGroot, et al. (2023). [REMOTE MEASUREMENTS FROM A LIVE VIDEO STREAM](#). Patent Office, Patent No. 11,830,213. Registration Date: 11/05/2020, Grant Date: 11/28/2023, Publication Date: 11/28/2023.