

David Montague

Experience

Exactrics, Inc. • Founder & CTO • Jul 2018 – Dec 2019

With just a few photos, Exactrics lets you search, filter, and compare clothing by fit while you shop online

- Built a pipeline for converting sets of smartphone photos into millimeter-precision clothing scans
- Built custom fit-search, look-search, and fit-comparison engines for use with our scan data
- Built and maintained our backend server and cloud deployment infrastructure
- Collaborated on the frontend, including development of client SDKs and custom data visualizations

Palantir Technologies • Member of the Technical Staff • Oct 2015 – Feb 2018

- Adapted modern math, stats, and CS techniques to build solutions for Palantir's most critical customers and product teams. Selected projects include:
 - A personalized document feed used by intelligence analysts to surface urgent new reports
 - A viewership model used by a TV network to simulate and optimize promotional campaigns
 - A customer churn model used by a major payment processor to prioritize CRM efforts

Education

- **Stanford University** • PhD, Mathematics • MS, Statistics • 2012 – 2017
 - Thesis: **Covariance estimation and graphical models for infinite collections of random variables**
- **Cambridge University** • MAST, Mathematics • Churchill Scholarship • 2011 – 2012
- **University of Michigan – Ann Arbor** • BS, Mathematics • 2007 – 2011

Technical Skills

Machine Learning and Data Science

Have prototyped and deployed ML models related to TV advertising, fraud detection, remote sensing, predictive maintenance, and more. Deeply familiar with standard techniques for working with images, audio, text, etc.

Computer Vision and Augmented Reality

Experienced using packages like OpenCV and AliceVision for a variety of image and mesh processing algorithms, and using tensorflow/keras to design, train, and deploy various CNN-based computer vision models. Also experienced with AR toolkits and using raw RGB-D data from depth cameras and dual-camera phones.

High-Performance Python

Deeply familiar with scientific python (numpy, scipy, scikit-learn, etc). Experienced using Cython and C++/Py-Bind11 to write high-performance extensions. Comfortable using celery and Spark for distributed workloads.

Web APIs, Frontend, and DevOps

Extensive experience with the python ASGI ecosystem, especially pydantic, fastapi, and starlette. Comfortable with frontend development for iOS and the web (TypeScript + React/Vue). Familiar with security concerns for public web services, and experienced deploying containerized stacks to multiple cloud providers.

Other

- My open source contributions are visible at <https://davidmontague.xyz/open-source>
- A list of selected articles and publications is available at <https://davidmontague.xyz/resume>