adrian **wan**

algorithms design engineer @ Nest

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software

♥ Python
(`pandas`, `SciPy`)
Scala · MATLAB
gRPC · Protobuf
GCP · Kubernetes · Docker
♥ Git
Atlassian Stack
(Stash, JIRA)

influences

Pragmatic Programmer
Wait But Why
Less Wrong

about

I build clean, extensible, flexible codebases to make work better.

experience

2015– **Nest** — **Algorithm Design Engineer**

- Created **Python prototype** of service, device, & app interactions to **validate end-to-end behavior**:
  - **Designed & implemented a modular framework** supporting CLI interactions, batch testing, & **arbitrary substitution** with real components;
  - Enabled **novel** integration and end-to-end tests of **user-facing behavior**;
  - With understanding gained, **self-taught Scala** to assist services team, **implementing & shipping** changes to consumer-facing services.
- Deployed & owned a **gRPC microservice** to buffer teams from instability:
  - Supported ∼20 people across 4 teams, **balancing** contrasting needs;
  - Leveraged GCP & Kubernetes for **auto-scaling** & **no-downtime** rollouts;
  - **Developed processes** around frequent breaking changes to ease development; used **tiered deployment** & **extensive smoke tests** to enable **isolated testing** of affected components. Sped up debugging ∼5x.
- **Re-engineered** a MATLAB script-based, labor-intensive process for temperature sensor modeling into a streamlined, **extensible Python library**:
  - Abstracted **mathematical models** for rapid prototyping & exploration;
  - **Continues to be used** for customer issues & future products.

2014 **Nest** — Algorithm Design & Data Science Intern

- Spearheaded Python prototyping of **data-driven customer product**:
  - Developed, implemented, & evaluated on-device sensor data models;
  - Employed **test-driven development** to publish a modular, extensible modeling package, used within team to prototype related features;
  - **Balanced** development with research-style data analysis.

2013–2014 **Swarthmore Spheromak Experiment (SSX)** — Research Assistant

- Developed Python (`SciPy`, `pandas`) analyses of plasma wind-tunnel data.
- Received the **Outstanding Undergraduate Poster Award** at the APS Division of Plasma Physics 2013 Meeting; **coauthored** papers published in *Physical Review Letters* & in *Plasma Physics and Controlled Fusion*.

education

2011–2015 **B.A.** Physics & Computer Science — Swarthmore College, Swarthmore PA
Cumu. GPA: 3.9 · *Phi Beta Kappa*

for more

Publications & more experiences are on my personal website & on LinkedIn.