

James Adam Buckland

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WORK EXPERIENCE

Peak6 Investments, DevOps Engineer, Chicago, IL.

Jul '16 -- Present

- Triaged and responded to real-time production issues as part of three-person rotating Tier 2 support team; worked crossfirm with Trader Support and Dev to diagnose and repair issues before /during market hours
- Deployed and managed 130k-service firmwide Check_MK-based monitoring system.
- Developed automations lib. to read various DCIMs, auto-configure per-app/per-host monitoring. (Python)
- Created custom monitoring scripts for business logic and infra. health. (Python, Bash, Erlang, SaltStack)
- Scheduled and orchestrated production apps, ETL, and other jobs in a StackStorm distributed job scheduler; developed live error visibility dashboards with gantt chart / historical views. (Python w/ Flask)
- Rapidly iterated user-requested features for in-house log/alert aggregation monitoring tool used as the primary dash. for Trader Support. (Python w/ Flask, Angular, ELK stack, Check_MK + Logstash integration)
- Maintained Elasticsearch clusters for firmwide centralized logging, developed custom Logstash configurations for applications, and assisted/trained Support and Devs with building Kibana dashboards.
- Managed app and infra configs in SaltStack, maintained MongoDB and PostgreSQL databases, administered Enterprise GitHub, Graphite/Grafana, CloudBolt, Rocket.Chat, other dev / IT systems.

Stockholm Summer Arctic Program, Div. of Hist. Sci, Tech., and Envr., KTH, Sweden

Summer '15

- Researched envr./social impact of ore mining industry with extended field-work term in Norrbotten.

Cognitive Computation Group, Department of Computer Science at Illinois

Summer -- Fall '14

- Maintained demo webserver, wrote interactive linguistics data visualizations. (Angular + Perl backend)

Continuous Casting Consortium, Department of Mechanical Engineering at Illinois

Summer '13

- Performed software refactor feasibility study for continuous casting numerical simulation software.

Hayden Planetarium, American Museum of Natural History, NY

Fall '10 -- Summer '12

- Constructed computational fluid model w/ numerical methods for in-house comp. astrochem. research.
- Built and maintained software pipeline for 3D geometric landscape assembly from JPL image database.

EDUCATION

B.S. Mechanical Engineering (graduated May 2016)

GPA 3.38

University of Illinois at Urbana-Champaign (UIUC), Illinois, U.S.A.

Fall '12 -- Spring '16

- *key courses:* Control Systems, Robotics, Fluid Dynamics, Dynamical Systems, Mechanical Design

KTH Royal Institute of Technology, Stockholm, Sweden

Winter '14 -- Summer '15

- *key courses:* Renewable Energy Technology, Comp. Methods in Energy, Modeling of Energy Systems

PROJECTS

Cornea, Isometric 3D Graphing / Rendering Module [Haskell]

github.com/ambuc/cornea

- Wrote a 3D rendering module in Haskell with rasterized image rendering / animation capabilities.

Project Euler, Online Mathematics / Programming Puzzle Site [Haskell]

Winter '16 -- Present

- Solved 110+ puzzles, attended local puzzle solving meetups. In top 1% of active users.

Arduino Programming, Design for Manufacturability (at Illinois)

Fall '15

- Programmed Arduino controller for 'walking' alarm clock; designed circuits and mech. walking linkages.

Energy Utilization Optimization, Modelling of Energy Systems (at KTH)

Spring '15

- Simulated HVAC, airflow, energy usage in annotated CAD model of campus building for cost/benefit study.

Wind Flow Modelling, Numerical Methods (at KTH)

Spring '15

- Simulated wind from hist. climate + building geometry data w/ CFD; optimized turbine placement.

EXTRACURRICULARS

Center for Academic Resources in Engineering: Tutoring Program Leader

Summer '14 -- Spring '16

Physics Society: *Physics Van* (Community outreach); *Engr. Open House* instructor

Fall '13 -- Spring '14

The Ill Harmonic (Men's A Cappella): Founder / Lead Arranger

Fall '12 -- Spring '14

TECHNICAL SKILLS

Languages: Python, Bash, Haskell, C++, Erlang, Javascript, Go, Java, FORTRAN

Web: Flask/Tornado, Jekyll, Apache/nginx, HTML/CSS, LAMP