Sam Rosen

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WORK EXPERIENCE

DraftKings **Summer 2019**
Software Engineering Intern (DevOps Team) Boston, MA
- Created a scalable application for live tracking of release branches to production using AWS Lambda.
- Designed serverless architecture scalable to arbitrary codebase size with complete up-to-date release data.
- Designed DynamoDB schema and frontend with React for a responsive efficient API and user interface.

Johns Hopkins University: Applied Physics Lab **Summer 2017, 2018**
Software Engineering Intern (Large-Scale Analytics Group) Laurel, MD
- Developed graph analytics using Java and functional programming with Gremlin for compliant graph databases.
- Programmed low-memory implementations of machine learning algorithms for training on arbitrarily large data.
- Created analytics for graph multi-edge merging, time-series, and data fusion using Java and MapReduce.
- Developed random forest algorithm on a distributed data system for classifying attributes on graph vertices.

General Dynamics Mission Systems **Summer 2016**
Software Engineering Intern Annapolis Junction, MD
- Worked with a partner to build a microservice acting as a REST backend to serve PDF's with Spring.
- Created a service to read generated reports through a REST API on a dynamic front-end with React.

UMass Mathematics Department **Sept. 2018 – May 2019**
Undergraduate Teaching Assistant Amherst, MA
- Held office hours for *Calculus for Life and Social Sciences I* for 5 hours a week.
- Created and ran review sessions for exams.

SELECTED PROJECTS

Python Package: *Diary* | github.com/SamGRosen/diary **Nov. 2016 – Present**
- Created a no-dependency package to make asynchronous logging easy with a highly customizable API.
- Published on PyPI with complete test code coverage, continuous integration, and extensive documentation.

Research Project: *SnakePacking* | github.com/SamGRosen/Circle-Packing **Jan. 2018 – May 2018**
- Completed semester long project researching the NP-HARD problem of the most efficient way to pack circles.
- Formulated an algorithm which packs circles in linear time achieving competitive densities near 70 percent.

EDUCATION

University of Massachusetts: Amherst **May, 2021**
BS, Computer Science; BS, Mathematics Amherst, MA
- Member of Commonwealth Honors College; 3.88/4.0 GPA
- Recipient of UMass Chancellor's Award – Four year academic scholarship
- Member of UMass Boxing Club and Minute Movers

SKILLS & INTERESTS

- **Programming Languages:** Python***, Java***, JavaScript***, Matlab*, Scala*, R*, C*
- **Related Technologies:** Linux, Git, React, Redux, HTML/CSS, Node.js, Gremlin, NumPy, Maven, JUnit, MySQL, libGDX, PIL, AWS Lambda, DynamoDB, S3, D3.js, THREE.js, C# Make
- **Selected Coursework:** Data Structures, Statistical Networks, Mathematical Modeling, Stat I and II, Algorithms, Data Visualization, Graphics, Computer Systems, Applied Linear Algebra, Multivariate Calculus
- **Interests:** Functional Programming, API Design, DevOps, Mathematical Modeling, Baseball