Bryan Weber

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SUMMARY

Experienced software engineer seeking to impact mission outcomes by leveraging expertise in building complex, data-driven solutions. Proven ability to collaborate effectively, own projects end-to-end, and drive innovation to deliver impactful results for stakeholders. Passionate about building cohesive teams and fostering a culture of continuous improvement.

EXPERIENCE

Staff Software Engineer | March 2024 – June 2024
Senior Software Engineer | August 2022 – March 2024
REBELLION DEFENSE ; defense tech startup valued over $1B, building software for battlefield analysis.

- Lead Python developer on a modular and scalable microservice-based system to process tens-to-hundreds of thousands of sensor messages for battlefield observability. Built with Python, golang, gRPC, and RabbitMQ.
- Led 1-month integration of ML algorithms for a $1M/year contract. Enabled evaluating thousands of potential actions per second, while current capabilities are limited to dozens per day.
- Led as the subject matter expert for ML-based task assignment algorithms during $1M/year-contract close-out demonstration to the Chief Scientist of the Air Force.
- Integrated LLM-generated action report summaries in our adversary emulation software. Used the OpenAI API with an optimized prompt to produce high-level overviews for non-technical stakeholders.
- Developed pipelines that rapidly deployed ML models to perform cyber-asset criticality assessment and automated training data generation. Used Flyte, Kubernetes, and AWS EKS to maintain model provenance.
- Founding member of a cross-disciplinary team focused on cultivating a positive and inclusive work environment through initiatives promoting empathy, team building, and open communication.
- Reviewed hundreds of code changes from dozens of team members. Emphasized driving customer value, fostering team growth, and shared skill development.

Open Source Software Engineer | January 2022 – May 2022
COILED COMPUTING ; early stage SaaS startup making cloud management tools integrated with the Dask ecosystem.

- Led performance improvement feature for Dask to enable loading terabyte-scale Parquet data from cloud storage. Results led to changing recommendations for settings in Dask to prevent out-of-memory errors.
- Led development of a highly-requested dashboard to display cluster status in the Coiled client.

Director of Undergraduate Studies | August 2019 – January 2022
Assistant Professor in Residence | August 2014 – January 2022
MECHANICAL ENGINEERING DEPARTMENT, UNIVERSITY OF CONNECTICUT

- Managed deployment and maintenance of JupyterHub to on-premises RedHat virtual machine via Docker and Docker Compose, scaled for use by 200+ students per semester. Enabled courses to have consistent software base and significantly reduced student issues due to software installation.
- Led 2-year development of new Mechanical Engineering curriculum for over 800 undergraduate students, balancing the needs of students, faculty, and industrial partners. Incorporated modern computation for engineering throughout the curriculum for the first time at UConn.
- Directed and mentored 10 undergraduate researchers working on open-source software. All the students had code changes merged in prominent open-source projects for scientific computing.

Core Developer and Community Leader | January 2014–Present
Steering Committee Member | January 2017–Present
Cantera Software Project | /Cantera

- Developed and automated build of Conda and PyPI packages for our C-extension, downloaded 500,000+ times in 5+ years.
- Developed and automated build and deployment of the Cantera website to Linode hosting, saving hundreds of hours of developer time.
- Received $2.5M grant from NSF to expand Cantera to novel scientific domains and develop sustainable communities.
- Organized and led three training workshops at international conferences with up to 100 paying attendees per workshop. Generated over $10,000 of revenue for the project.

Co-Chair, Small Development Grants Committee | January 2019 – January 2023
NumFOCUS

- Awarded up to $95,000 three times annually to applicants from among NumFOCUS sponsored and affiliated projects. Evaluated up to 40 applications per round.
- Organized and co-hosted decision meetings for 13 committee members, ensuring each application was discussed in the allotted time and each committee member was contributing effectively.
- Provided thoughtful, actionable, feedback to projects that were not selected for funding. Focused on empathetic communication to ensure projects were able to respond effectively in future funding rounds.

Freelance Author and Technical Reviewer | January 2019 – January 2021
Real Python | realpython.com

- Wrote six in-depth articles averaging over 30,000 unique readers per week
- Covered basic to advanced topics in the Python ecosystem, including Python `main` functions, using `datetime` and `dateutil`, and the `enumerate` function.
- Featured on the Python Bytes and Real Python podcasts.

EDUCATION

Ph.D. in Mechanical Engineering, University of Connecticut | 2014
B.S.E. in Aerospace Engineering, Case Western Reserve University | 2009

SKILLS

Programming Languages: Advanced Python | Basic Golang | Basic C++

DevOps & Infrastructure: Docker | Kubernetes | CI/CD | AWS Cloud Services (EC2, S3, EKS) | Machine Learning Pipeline Development (Flyte, Dagster)

Software Development: Software Design | Project Management | Team Leadership | Code Review | Communication