

# James Maslek, Ph.D.

Lorton, Virginia • jmaslek11@gmail.com • linkedin.com/in/james-maslek • github.com/jmaslek

Founder of OpenBB (\$8.9M seed) turned senior IC, with deep experience building data systems end-to-end — from pipeline architecture and analytics engineering to full-stack AI applications. Currently shipping data science pipelines and Vursa.ai, an AI-powered research platform, for the U.S. FDA. Physics Ph.D.

## SKILLS

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**Python:** Pandas, PyTorch, TensorFlow, PyMC, NumPy, Polars, Scikit-Learn, PyMuPDF, pdfplumber, Plotly, Matplotlib, Seaborn

**Data & Cloud:** Snowflake/Snowpark, Postgres/MySQL, OpenSearch, LanceDB, FAISS, dbt, Dagster, Airflow, Fivetran, AWS (Lambda, RDS, DynamoDB, Redshift)

**Web & LLM:** FastAPI, React/TypeScript, RAG pipelines, vector databases, LLM integrations

**DevOps & Other:** Docker, Git, CI/CD, deployment, JavaScript/TypeScript, MATLAB

## WORK EXPERIENCE

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**Senior Full Stack Data Scientist** — International Consulting Associates (ICA), Arlington, VA 04/2025 - Present

- Build and orchestrate Dagster pipelines for ingestion, transformation (dbt), and analytics supporting the U.S. FDA, including the Center for Devices and Radiological Health (CDRH).
- Developed PDF document processing pipelines on AWS using PyMuPDF and pdfplumber to extract and structure unstructured regulatory content.
- Implemented signal detection on Medical Device Reports (MDRs) using changepoint detection and likelihood ratio tests to surface emerging safety trends.
- Built OpenSearch-powered search across large structured and unstructured datasets.
- Lead end-to-end development of Vursa.ai, an AI-powered research platform that accelerates systematic evidence synthesis and analysis — owning frontend, backend, LLM integrations, and DevOps/deployment.
- Manage CI/CD, containerization, and cloud deployment across platform and pipeline services.

**Founder** — OpenBB, Virginia, USA 10/2021 - 04/2025

- Core contributor to the Gamestonk Terminal / OpenBB GitHub project (35k+ stars).
- Raised \$8.9M seed round; led company operations including hiring, budgeting, and forecasting.
- Architected FastAPI backend services and data pipelines powering core product features.
- Built end-to-end analytics stack: Snowflake warehouse, dbt models, and dashboards for business and product metrics; used product usage data to drive sales pipeline.
- Led internal AI chat over public SEC filings using RAG:
  - Built pipelines for collecting and parsing unstructured filings.
  - Implemented LanceDB vector store for embeddings with pre-filtered metadata.
  - Built retrieval and chat agent for interactive querying.

**Ph.D. Graduate Researcher** — University of Maryland 06/2015 - 10/2022

- Dissertation under Trey Porto: “Floquet Heating and Relaxation of Interacting Bose-Einstein Condensates.”
- Operated and maintained ultra-high vacuum systems, laser systems, RF electronics, BEC, and optical lattice setups.

- Published peer-reviewed research and communicated complex findings to technical and non-technical audiences.

## EDUCATION

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<b>Ph.D., Physics</b> — University of Maryland	2015 – 2021
<b>B.S., Physics</b> — University of Rochester	2011 – 2015
<b>B.S., Optics</b> — University of Rochester	2011 – 2015

## PUBLICATIONS

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Dynamical formation of a prethermal Bose-Einstein condensate in a Floquet-engineered lattice — <i>Phys. Rev. A</i>	06/2024
Realization of a Floquet-Engineered Moat Band for Ultracold Atoms — <i>Physical Review Letters</i>	01/2022
Parametric Heating in a 2D Periodically Driven Bosonic System: Beyond the Weakly Interacting Regime — <i>Phys. Rev. X</i>	01/2019
A low-steering piezo-driven mirror — <i>Review of Scientific Instruments</i>	01/2018
Spontaneous avalanche dephasing in large Rydberg ensembles — <i>Phys. Rev. A</i>	01/2017