Monica Spisar

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SOFTWARE SKILLS + PROJECTS + POSTS

Python, Go, Rust. NumPy, PyTorch. SQL, PostgreSQL, SQLite, Redis, BigQuery, Open Telemetry, Honeycomb, Datadog, Grafana, Prometheus. Superset, Rockset, Looker. Docker. Terraform. Tailscale. GCP, Digital Ocean, AWS. Git. Bash.
Projects (GitHub): agentrix, micrograd-python, ray tracers (Rust, Python), multisource downloader
Posts (monicaspisar.com): Designing neural networks; Rust memory management; Go(lang) now!; AI in medical imaging

TECHNICAL IC EXPERIENCE

Recurse Center Software craftsmanship & upskilling 2021.09 - 2021.12 & 2024.05 - 2024.08
Dramatically improved my software engineering skills in both batches at `*the writing residency for programmers*`.
2024: Career transition to machine learning, AI safety (mechanistic interpretability), memory-safe languages (Rust).
2021: Career transition to backend engineering. Focused on computer science fundamentals and code craftsmanship.

Lantern Software Engineer, Censorship circumvention systems 2022.03 - 2024.05
Rebuilt a data pipeline and migrated a data warehouse, reducing data storage and processing costs by 50%. Designed and built client metrics and ops/dev dashboards to both secure O($MM) funding and accelerate complex service recovery (days -> hours). Completed tickets to support distributed cloud infrastructure delivering web and mobile apps. Go, Python, Rust, GCP, Docker, Terraform, Open Telemetry, Superset, Big Query, Honeycomb, Datadog, Tailscale.

Kardium Research Engineer (Employee #16), Medical devices 2008.11 - 2011.01
Transcatheter mitral valve repair: device design, biomedical expert; led deployment guidance imaging; led preclinical trial design. Sternal closure device: led performance characterization (simulations, lab); supported clinical evaluation.
Patents: 8888791, 9700363: Surgical instrument and method for tensioning and securing a flexible suture

Biomedical Imaging Lab, Sorbonne University Research Scientist (Postdoc) 2003.09 - 2004.09
Designed and built a microfluidics-based vascular flow model system for high resolution ultrasound imaging.

LEADERSHIP + MANAGEMENT EXPERIENCE

University of Oxford Scientific Liaison / Portfolio Manager 2019.02 - 2021.07
Scouted, funded, managed $1.2MM longevity portfolio. Details: monicaspisar.com/posts/hedging-bets-longevity

Mineral Deposit Research Unit Interim Associate Director 2013.10 - 2015.10
Led operations, finance (budget O($MM)). Led strategy, new initiatives. Board liaison. Planned, executed unit reorg.

University of British Columbia Program Manager & Industry Grants Officer 2011.04 - 2013.06
Delivered a translational training program. Negotiated and managed 200+ industry-academia agreements annually.

Panne Rizo CEO 2004.10 - 2011.01
Transformed micro-managed business into local retail/wholesale enterprise. Earned coveted Whole Foods supplier slot.

Xoran Technologies Early stage startup team member 2000.01 - 2000.11
Small footprint CT scanner. On early team, to seed funding (SBIR: $250k/$1.5M).

EDUCATION + RESEARCH TRAINING

University of Michigan PhD, Biomedical Engineering (Medical Imaging)
Thesis: Optoacoustic detector arrays for medical imaging applications. Publications: Google Scholar: Monica Spisar
Designed, built, tested a laser-based ultrasound imaging system with novel detection technology. Met clinical requirements, 10x sensitivity increase. Signal capture, image processing, image reconstruction, systems analysis.

University of Toronto BSc, Physics