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Dear PumasAI Hiring Team,

I'm writing to apply for the Scientific Consultant position on the DeepPumas team. Your approach to augmenting pharmacological modeling with ML—particularly through Neural Stochastic Differential Equations—directly aligns with my expertise and career focus.

Why I'm a Strong Fit

NeuralSDE & Julia Expertise: I managed a research project implementing NeuralSDEs for option pricing using Julia's SciML ecosystem (DifferentialEquations.jl, Flux.jl). This work demonstrated superior convergence over traditional Monte Carlo methods while maintaining mathematical guarantees—exactly the physics-informed ML approach DeepPumas employs. I understand the philosophy: differential equations as modeling primitives, automatic differentiation throughout, and composability for rapid iteration.

Scientific Foundation: My Licenciatura thesis in Physics focused on stochastic processes—modeling diffusion and confinement in biological systems through statistical analysis and numerical simulation. This translates directly to pharmacokinetic modeling: both require rigorous treatment of stochastic dynamics, parameter inference from noisy data, and validation against physical constraints.

Long-Term Project Ownership: At Qontigo, I owned 14-18 month projects from conception to production—mastering complex domains (learned fixed income from scratch), designing methodology, implementing solutions, and coordinating cross-functional teams. I achieved a 300% performance improvement through novel caching strategies, requiring deep mathematical understanding to identify valid optimizations.

External Collaboration & Communication: I've published peer-reviewed papers, presented workshops at SciPy Latinoamérica, taught university courses (Professor of Calculus at UBA), and created educational content on scientific computing. I'm comfortable being the primary contact for external partners and translating complex mathematics accessibly.

Research Software Engineering: I practice rigorous RSE principles—comprehensive testing, reproducibility, CI/CD, documentation. At Mercado Libre, I led 14 engineers in adopting these practices, achieving 90% reduction in forecasting errors. When methodology becomes production software impacting healthcare, this rigor is foundational.

Why This Role

After applying advanced mathematics to financial systems, I'm energized by the opportunity for direct healthcare impact. Your work enabling personalized treatments through better models—and building scientific credibility through publications and conference awards—represents the intersection of rigorous science and practical application that drives me.

I bring the blend of skills your role requires: statistical modeling, dynamical systems, ML, domain learning ability, methodology development, scientific communication, and mentorship experience. I'm ready for remote-first collaboration, occasional travel, and immediate availability.

I'd welcome the opportunity to discuss how my background could contribute to specific DeepPumas projects and your team's research direction.

Thank you for considering my application.

Sincerely, **Sasha (Augusto) Kielbowicz**

Attachments: CV | GitHub: @akielbowicz | Talks: talks.saxa.xyz