

PHILLIP LOPES MATES

RESUME

Resides:	Berlin, Germany	Email:	phillip.mates@protonmail.com
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STATEMENT Coming from a background in programming language, I'm an experienced backend engineer. I value building well-measured software, am discerning about tooling, and place precedence on the development process. I'm happiest when building products that empower users and facilitate social change.

EDUCATION **Northeastern University**, Boston, MA 2012 – 2014
MS in Computer Science, Programming Languages focus

University of Utah, Salt Lake City, UT 2008 – 2011
BS with honors in Computer Science, *December 2011*

TECHNICAL SKILLS **Languages:** Clojure, Java, Scala, Python, Racket
Platforms/Tools: Datomic, Kafka, Android, Django, Jenkins, Calabash

EXPERIENCE **Software Engineer in Data Infrastructure**, Nubank, Berlin, DE Oct. 2017 –

- ◇ *Data-infrastructure:* Innovating over our ETL for Datomic-backed services and developing data processing tools used by hundreds of internal clients.
- ◇ *Testing framework:* Maintainer of several key testing tools at Nubank, including Midje, a popular open-source testing framework.
- ◇ *Technical lead:* Set technical priorities for a small team focused on data ingestion and publishing

Software Engineer, Nubank, São Paulo, BR Feb. – Oct. 2017

- ◇ *Microservices:* Build and maintain microservices in Clojure for a mobile-driven credit card product.
- ◇ *Engineering productivity:* Build tools and improve core Clojure libraries to boost the efficiency of a 100+ engineering team.

Software Engineer, Dimagi, Boston, MA 2015 – 2017

- ◇ *CommCare:* improved stability and performance of an Android app used by tens of thousands of users world-wide. Implemented new features for users with low tech literacy.
- ◇ *Tests:* established unit-level Robolectric and UI-level Calabash test systems for Android. Built an integration test-suite between mobile and server apps. Setup cross-repository CI system.
- ◇ *Legacy code:* performed substantial refactors on a 5-year-old production legacy codebase. Migrated from Java 3 to 8 and from the Ant to Gradle build system.
- ◇ *User empathy:* Worked with users to make development in the CommCare app building platform more approachable and efficient.

	Research Student , Northeastern University, Boston, MA	2012 – 2014
	Used type systems to prove correctness and security properties about compilers. Realized proofs using both paper/pencil and assisted methods.	
	Software Engineer Intern , Google, Santa Monica, CA	Summer 2011
	Built a domain name classifier to enforce policy violations and developed internal analytics scripts.	
PUBLICATIONS	Under Control: Compositionally Correct Closure Conversion with Mutable State	PPDP 2019
	P. Mates, J. Perconti and A. Ahmed <i>Principles and Practice of Declarative Programming</i>	
	A Provenance-Based Infrastructure to Support the Life Cycle of Executable Papers	ICCS 2011
	D. Koop, E. Santos, P. Mates, H. Vo, P. Bonnet, B. Bauer, B. Surer, M. Troyer, D. Williams, J. Tohline, J. Freire and C. Silva. <i>International Conference on Computational Science</i>	
	CrowdLabs: Social Analysis and Visualization for the Sciences	SSDBM 2011
	P. Mates, E. Santos, J. Freire and C. Silva <i>International Conference on Scientific and Statistical Database Management</i>	
	The ALPS project release 2.0: Open source software for strongly correlated systems	JSTAT 2011
	B. Bauer et al. (ALPS collaboration). <i>Journal of Statistical Mechanics: Theory and Experiment</i>	
	Towards Supporting Collaborative Data Analysis and Visualization in a Coastal Margin Observatory	CSCW 2010
	E. Santos, P. Mates, E. Anderson, B. Grimm, J. Freire and C. Silva <i>Workshop on The Changing Dynamics of Scientific Collaboration</i>	
TALKS	The rise and fall of eze testing at scale	April 2019
	Dutch Clojure Days, Amsterdam, NL	
	How we test at Nubank	April 2018
	Dutch Clojure Days, Amsterdam, NL	
	Kripke Logical Relation for Affine Functions: The Story of a Free Theorem in the Presence of Non-termination	Sept. 2013
	The 2nd ACM SIGPLAN Workshop on Higher-Order Programming with Effects, Boston, MA	
POSTERS	Analyzing Android Applications with Abstract Interpretation	ICFP 2012
	Student Research Competition	
TEACHING EXPERIENCE	Teaching assistant , CS2500 <i>Introduction to Programming and Computing</i>	2012, 2014
	Introductory undergraduate CS course at Northeastern University modeled off of “How to Design Programs”.	