Borja de Régil

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EDUCATION

B.S. in Computer Science, Universidad Complutense de Madrid, Madrid, Spain — June 2020

EXPERIENCE

Research/Development Engineer, IMDEA Software Institute, Madrid — June 2020 – present

Developer of Unistore, a fault-tolerant data store combining causal and strong consistency. Developed significant experience with fault-tolerant distributed consensus protocols (Paxos) and Conflict-free replicated data types (CRDTs). Implemented evaluation benchmarks and deployed them on AWS.

Research Intern, IMDEA Software Institute, Madrid — Oct. 2016 – May 2020

Developer of fastPSI, a transactional protocol for distributed databases with flexible consistency semantics. Developed experience with property-based testing and TCP performance on high-latency scenarios. Extensive design of evaluation benchmarks.

Participant, Google Summer of Code with BEAM Community, Remote — May 2016 – Aug. 2016

Improved the run-time performance of Lasp, a programming language for distributed, eventually consistent computations (https://github.com/lasp-lang/lasp) based on CRDTs. Reduced end-to-end latency by applying deforestation techniques and control flow analysis in distributed dataflow scenarios.

PUBLICATIONS

CONFERENCES

- Manuel Bravo, Alexey Gotsman, Borja de Régil and Hengfeng Wei, *UniStore: A fault-tolerant marriage of causal and strong consistency*. USENIX ATC 2021

WORKSHOPS

- Borja de Régil and Christopher Meiklejohn, *Dynamic Path Contraction for Distributed, Dynamic Dataflow Languages*. AGERE 2016

TALKS

- *Dynamic Path Contraction for Distributed, Dynamic Dataflow Languages*. AGERE 2016 — Oct. 2016

SKILLS

- Professional Experience: Go, Erlang, R, bash scripting.
- Fluent: Pony, Python, Javascript, Java.
- Familiar: Clojure, OCaml, C, Rust.
- Tools: Git, Subversion, LaTeX.

ACTIVITIES / PERSONAL PROJECTS

Regular participant and contributor to the Pony programming language (https://ponylang.io/). Helped with porting the compiler and runtime to Apple Silicon as well as with various improvements to the foreign function interface on arm64. Developed the unofficial Protocol Buffers compiler for Pony, currently a prototype (https://github.com/ergl/pony-protobuf).

Developed Tarida (https://github.com/ergl/tarida), a prototype client for Secure Scuttlebutt, a peer-to-peer social network based on signature chains (https://scuttlebutt.nz).

LANGUAGES

- English: Full professional proficiency.
- Spanish: Native language.

INTERESTS

Distributed and peer-to-peer systems, strong (consensus) and weak consistency (CRDTs), databases.