Peter Goldsborough

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WORK EXPERIENCE

• Facebook, London, United Kingdom

04/2017 - Present

Intern, Real Time Systems

- Optimizing highly distributed real time infrastructure at the core of Facebook.
- Bloomberg, London, United Kingdom

11/2016 - 04/2017

Intern, Instant Bloomberg

- Added functionality to the Instant Bloomberg (IB) messaging system to trace messages across every hop.
- Wrote a network traffic simulation tool that produces messages to Apache Kafka message queue clusters.
- Google, London, United Kingdom

08/2016 - 11/2016

Intern, gTech

- o Built chatbots in Go, using the natural language processing engine inside Google's Allo app.
- Built a web platform to showcase Google's ad technologies.
- o Open-sourced an AngularJS integration of Google's GPT library in an official Google GitHub organization.
- Technical University Munich, Germany

04/2016 - 09/2016

Research Assistant, Chair for Database Systems

- Investigated interprocess communication techniques for low-latency transmission of database queries.
- Implemented a software library (10,056 lines of C) that replaces domain sockets by injecting a shared memory transmission channel. This speeds up applications by an order of magnitude.
- Klagenfurt University, Austria

10/2014 - 07/2016

Research Intern, Institute of Networked and Embedded Systems

- o Applied machine learning to Non-Intrusive-Appliance-Monitoring (NIALM) in Python, C++ and SQL.
- Invented custom $O(N \log N)$ clustering algorithm to replace existing $O(N^2)$ solution.
- Wrote 8363 lines of C++, Python and SQL code (working 5-10 hours/week)

PROJECTS

- Lead a team of 12 students to develop an architecture-independent assembly simulator in C++14 and Qt5 supporting RISC-V, x86 and ARM ISAs.
- clang-expand is a clang and LLVM based tool to inline function calls and expand macros in C, C++ and Objective-C for visual benefit and easier refactoring. Featured in LLVM Weekly 169.
- <u>lru-cache</u> is a least-recently-used (LRU) cache implementation in modern C++ that allows for efficient function memoization while avoiding a memory blowup.
- Talks on Deep Learning with TensorFlow at PyCon UK, Python Munich and PyData London.
- All my projects can be found at github.com/goldsborough.

EDUCATION

• Technical University of Munich (TUM), Germany

10/2015 - Present

B.Sc. in Computer Science

- Top 5% in all courses.
- Awarded German National Scholarship (1% of applicants admitted).

PUBLICATIONS

- NILM: A Review and Outlook, Christoph Klemenjak, Peter Goldsborough, Sep. 2016 arXiv:1610.01191