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EXPERIENCE

CTO

AgFlow Geneva, CH　　　　　　　　　　　　　　　　　　　　　　　　January 18 - Now

- Leveraged machine learning to create automated data pipeline which collects data through different mediums; natural text in email, HTML scraping, Excel and PDF parsing, OCR etc; cleans and normalizes the data, makes outlier and correlation analysis. Our system can also fill the missing dates and can predict forward quotes up to 1 year in %7 error tolerance.

- Introduced pachyderm to implement a data lake, provides the de facto place for all the data collected with structured and versioned storage.

- Adapted cloud-native and introduced Kubernetes with Rancher to ease management of the infrastructure, switched CI to Drone, coupled PostgreSQL/Prometheus with Grafana. Introduced bots for common tasks, renovate for deps, open-bot for repo management, etc.

- Heavily utilized TimescaleDB for time series; forex, futures, quotes, supply & demand.

- Integrated Open API and Slate for beautiful automatically generated API documentation. Integrated docusaurus for developer documentation.

- Converted web client to Typescript and introduced Flutter for mobile clients.

- Used multiple APIs; Twilio for WhatsApp, Typeform for forms, Auth0 for authentication and authorization, Pusher for push notifications etc.

- Scaled the development team from 2 to globally distributed 11 members.

CTO

AgFlow Geneva, CH　　　　　　　　　　　　　　　　　　　　December 16 - January 18

- Complete automatization of data loading which previously required human resources; reduced work force by 2 people and costs ~40K $ yearly.

- Tripled data coverage (global trade flows) and cross referenced with different data sets (prices, futures, weather, etc) to provide ultimate search experience in the domain. ElasticSearch and Redis are leveraged.

- Extended product portfolio by building a well-documented and easy-to-use API, provides raw and processed access to different stages of our data - exactly as it is, cleaned, interpolated and anomaly detection applied, finally high level inferences.

- Migrated to a popular and modern cloud, enabled us to cut previous custom implementations and to use standard tools; integrated some tools along the way such as terraform for provisioning, ansible for automation, prometheus/netdata for metrics and outlier detection, hubot for chatOps, jenkins for CI.

- Modernised our client stack. Converted CoffeeScript to ES6, integrated flow for type support, ESlint for linting, prettier for automatic formatting and various tools in React ecosystem to replace our implementations; redux, react-router.

- Brought TensorFlow to build reference indices intelligently similar to what Bloomberg does.

Full-Stack Developer

AgFlow Geneva, CH　　　　　　　　　　　　　　　　　　　February 15 - December 16

- Increase data processing capacity 3 times and speed ~20 times by using correct data store, where previous one was very slow for our relational data and required ad-hoc queries for search engine (main feature).

- Ditched NoSQL as main store but it doesn't mean it's removed completely from architecture. Even utilised more in specific tasks such as task runner, sessions, output caching and tests.
- Reworked front-end build for 2 times faster and 40% smaller bundles, which is also helping us for ES6 transition.
- Implemented framework to integrate data of different ground operation companies, which is currently used for 4 companies to enable 2 main supportive features for cash price search engine.
- Implemented robust payment system via Stripe, which is replacing manual invoices. Currently, brings more money than previous manual system without any effort.
- Brought analysis and charts to expose historical data which create additional dimension in the usefulness of website.
- Designed and implemented admin console to automate / control administrative tasks easily. It provides better insights, easier data manipulation and tracking, full automation on tools / services (i.e. Asana, Sendgrid, Stripe, Twitter, etc.) where it's main ingredient while building growth plan.

Backend and Infrastructure Developer
Innovative studio, Unit9 London, UK   September 14 - February 15
- ~3.5 TB tweet analysis to extract brand impressions in terms of location, age, keyword, etc. to show importance of Twitter for brands, which was Twitter 2015 CES experience.
- Quickly learned Symfony PHP and wrote complete backend of San Pellegrino Real Foodie competition website.

Software Developer, Open Source
Indico Software @ CERN Geneva, CH   Mar 13 - Sep 14
- Integrated MVC and structured coding, and extracted microservices which easily enabled using multiple databases for better scalability and speed.
- Designed and implemented highly scalable and extensible polyglot storage system **OODBMS** (ZODB) + **RDBMS** (PostgreSQL) + **NoSQL** (Redis and MongoDB)
- Brought Python 3 that results easier maintenance and faster application with fixed many bugs thanks to new Unicode handling.
- All in all, made the ground work for the next decade of CERN Event management application.

Committer, Open Source
Community Software Lab Massachusetts, USA   Jun 11 - Feb 12
- Transition of social service search engines *mvhub.com* and *northshoreport.org* to MVC architecture for easier development and maintenance
- Custom ORM to provide backend agnostic storage system which enables plug and play between different DBMSs
- Restructured DB schema for normalization (DRY), performance (to reflect usage patterns better) and tools (to use new features of DBs).

Software Developer Part time
Bogazici University Civil Engineering Department Istanbul, TR   Mar 11 - Jun 11
- Customizable incident detection and load generation plugins for Paramics, a full featured simulation tool used by the department
- Implemented *Traffic Simulator* to test the performance of the congestion/incident detection research algorithms that aren't easily simulated in their tools.

Teaching Assistant

Bogazici University Computer Engineering Istanbul, TR   Feb 11 - Jun 11

- CMPE 230 - *System Programming*, teaches compilers, linkers, loaders, Unix and system calls, and uses assembly, make, C and Perl.
- Helped students to prepare 3 projects and graded them, a minimal log parser for *Apache Web Server*, a command line client for *AWS* and a graphical user interface for *wget*

Software Developer

Pozitron Mobile Istanbul, TR   Aug 10 - Jun 11

- *SessionSwitch Service*, a monitoring tool that keeps track of what developers do on their machines. After putting it in place, it seems everybody works more hours.
- *kapalidevre.com digital signage system* that enables customers to prepare custom playlists and to play them on multiple machines at the same time indefinitely such as screens at shopping malls. Rejuvenated the desktop client and integrated multiple web services to provide long-time lacking features such as news, weather forecasts, radio, etc.

Software Developer Intern

Nortel Netas Networks Istanbul, TR   Jun 10 - Jul 10

- Market analysis for a mobile SIP client (Palm, BlackBerry, Windows Phone, iOS and Android) and implementation of a very simple prototype in Android, which helped to give a final decision for the platform on which company will put all resources for full featured implementation.

Software Developer Intern

Pozitron Mobile Istanbul, TR   Jan 10 - Feb 10

- *Download Manager*, a web application to serve versions of mobile applications at pre-smart-phone era according to phone specification.
- Implemented custom and simply Nagios, *Server health watcher aka Big Brother*, for analytics and emergency recovery.

Software Developer Intern

Pozitron Mobile Istanbul, TR   Jun 09 - Oct 09

- Implementation of a manager for logs and notifications for mobile banking at Turkish IsBank
- Domain specific editor for a custom XML-based language, that is used to define the hierarchy of the code written by the company

COMPUTER SKILLS

- Solid background on **data structures**, **algorithms** and **distributed systems**
- Experienced developer on **Linux** environment
- Mostly drives **Go/Python/JavaScript** but also has a broad repertoire from C to Scala, LISP to Prolog to pick according to task.
- Experienced in **RDBMSs (PostgreSQL / Citus / MySQL / Presto)**, **time-series DBs (TimescaleDB / Prometheus)**, knowledgeable in many **NoSQL DBs (Redis / MongoDB / RethinkDB/ElasticSearch / Neo4j / OrientDB)** and was lucky to solve some big data problems with *Avro/Hadoop/Kafka/Pig/Spark/Thrift/Zookeeper*
- Edits in **Vim**, tracks via **Git**, automates with **make** and **ansible** and deploys to **Docker** via **Kubernetes**.

EDUCATION

Master of Science, Computer Science, with Internet Computing Specialization   2014
School of Computer and Communication Sciences
Swiss Federal Institute of Technology in Lausanne(EPFL), Switzerland
Thesis: *"New Storage System for Indico, Event Management at CERN"*
Semester Project: *"Nokia Mobile Data Challenge - Demographic Attributes"*
Extra Project: *"Squall, Online Query Processing Engine on top of Twitter Storm"*

Bachelor of Engineering, Computer Engineering   2011
Faculty of Engineering
Bogazici University, Istanbul, Turkey
Thesis: *"Social Analysis on DeviantART"*