

Avishalom Shalit (vish)

Lead Algorithm Developer; Data Scientist; Senior SWE

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424-255-8474 (42-42-55-vish)

I enjoy deriving meaningful, measurable, and actionable insights from data.

I have successfully done so on a wide range of inputs and datasets, e.g: Financial data and prediction markets; sports betting; online content text clustering and sentiment mining; browsing habits and topic personalization; user commercial behavior patterns; automated marketing pitch phrasing.

I am a data scientist, algorithm developer, senior software engineer and research team leader, with hands on industry R&D experience.

In smaller companies I had lead and taken an active development role in key projects that increased revenue by millions of dollars, and developed the core I.P of the company.

At Google I am a senior SWE, experienced at working in big teams with big datasets. Developed ML features, and worked on production data pipelines for one of the large ads products. Currently working on Firebase admin developer tools.

SUMMARY OF QUALIFICATIONS

- Senior SWE at Google, working on developer tools and ads; Experience with "big" data
- Extensive experience as a researcher, data scientist, hands on algorithm and software developer
- Goal oriented - experiment designs and data explorations focused on increasing revenue
- Proven ability to transform innovative research ideas into products
- Application of machine learning and text mining techniques to large scale real world data
- Development of live (real money) financial trading systems
- I love: Python, MATLAB; like Go; also experienced in Java, C++, perl, bash and SQL.
- Summa Cum Laude, double major B.Sc., Physics & Computer Science, Hebrew University
- Studies towards a PhD in Neural Computation at the Hebrew University (All but Dissertation)
- Teaching experience, including graduate level courses at the Hebrew U., and Open University

PROFESSIONAL EXPERIENCE

9/2014 – Present: Google Senior Software Engineer. Waterloo, ON, Canada.

Google Content Ads

- Data integrity. Owned from start to delivery a project aligning training data for an ad pricing model with the serving system ensuring served features are identical.
- Conducted experiments to identify relative strengths of new features of the pricing model.
- Rewrote the experiment reporting system used to validate rollout of new features/model.
- Implemented a backend feature pipeline to allow experimentation on new features.
- Wrote and ran a system and process for drilling down into the data to identify outliers in the results and improve the pricing model.

Google Firebase games and Firebase Admin SDK

- Designed and implemented the backend server for several Firebase Admin REST APIs; Implemented admin SDKs in Go, Python and Java.
- Built internal dashboards and stats for identification of trends in usage and direct dev efforts.
- Proposed and designed experiments to define new product offerings.

Community contributions (side projects)

- Led a local initiative to introduce teachers to CS teaching techniques, reached over 200 teachers over the course of 3 years who then used the material with thousands of local school children.
- Led a practice group for Compassionate Communication (NVC) for fellow employees.

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3/2011 – 7/2014: Persado (spun off Upstream), Head Algorithm & Analytics

Persado develops marketing solutions for clients that in turn have hundreds of millions of customers. Typically, effectiveness of ad campaigns is doubled, with revenue increase in the million dollar range.

Persado pioneers the field of marketing language engineering.

- **Initiated and participated** in data-exploration, extraction of insights, intellectual property development (and patents), design of tests and experiments, and subsequent strategic changes.
- Took leadership and key role in designing, implementing and analyzing extensive experiments. The insights from these resulted in increased revenues for clients **totaling millions of dollars**
- Instrumental in preparing the technical side of the **due diligence** requirements in a first funding round, in which we **secured significant funding** for our continued expansion/spinoff. This led to the spinoff of Persado(in NYC) from Upstream (London, UK)
- Leading a team of algorithm developers and statisticians; **research** in a business environment.
- Designed and managed an internal operational knowledge base and **streamlined workflow** of other departments within the company by identifying and optimizing the weak points in the work processes, and by designing solutions, both in software and in process to alleviate them.
- In charge of semantic mapping and auto exploration and clustering of the global ad space.
- Designed and rolled out a data-crunching recruiting challenge to grow my team with the right people: <https://vish-webserver.appspot.com/> (slightly old, some logos missing).

5/2009 – 3/2011: Sentigo.com - Head of Algorithm Development

Sentigo.com (formerly Bulloonz) provides aggregated sentiment and news data pertaining to financial assets. Data are collected from myriad online sources, giving insight to the true market zeitgeist.

- Developed methods for the analysis and presentation **of quantitative and semantic data** from user generated content on a myriad of sources, including work on both an external sentiment analysis solution, and an in house machine learning solution.
- Designed and developed topic extraction, semantic **models** and document clustering methods.
- Implemented and integrated temporal n-gram topic extraction as a "hot topics" feature.
- **Designed and authored** prototypes as well as production components.

2005–2009 Freelance Consultant; Algorithm Developer and Programmer

- Worked with clients to formalize existing trading concepts and ideas **into testable strategies**.
- Programmed, tested and supervised live **automated** trading programs trading **real money**.
- Applied various **machine learning** techniques to optimize strategies
- Integrated with **various** different systems and APIs in C#, C , JAVA, perl.
- **Consistently delivered** fully functional and thoroughly tested systems

Main Contracts:

11/2008 – 5/2009 BSD software, Private forex investment group

- **Chief** algorithm developer, researcher and software developer.
- Identified and **automated** key ideas in client's existing manual trading systems.
- Aided development of strategies, and coded into a **live (real money)** auto trading solution.

7/2008 – 11/2008 Collarity.com – online content personalization.

- Researcher and **algorithm developer**
- Developed and optimized **new approaches** to browsing-behavior based user/content clustering and user/content categorization in addition to semantic (LDA based) clustering.

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- Developed new metrics for co-clustering the **co-visitation graph** (i.e. inferring related users and related content based on the browsing history).

9/2007 – 4/2008 S.O.M.M, private investors, online sports betting markets

- Chief algorithm developer, researcher and software developer.
- Adapted client's methods for hedging sports betting to create an automated trading system managing a live trading account on betting exchanges.

5/2005 – 1/2006 'Convexus Advisors' - SF based startup hedge fund

- Chief **algorithm** developer and researcher, developed novel strategies and financial indicators.
- Performed extensive statistical **research** on financial indicators in the commodities market.
- Coded **new indicators and strategies** into existing trading frameworks.

TEACHING EXPERIENCE

2004 – 2007 Teaching Assistant, Hebrew University, Jerusalem

- "Neural Networks I", graduate course, developed lectures and exercises.
- "Emergence of Complexity", research seminar.

2001-2004 Instructor, Open University, Computer Science Department

- "Algorithms"
- "Automata and Formal Languages"

EDUCATION

2002 – 2008 PhD studies, **Neural Computation**, ICNC, Hebrew University, Jerusalem. (A.B.D)

1999 – 2002 Hebrew University, Double Major B.Sc. **Physics & Computer Science**

"Amirim" **Natural Sciences Honors Program**, graduated summa cum laude.

PUBLICATIONS & PERSONAL PROJECTS

- "**Predicting predictions**: in-play bet prices are practically predetermined" (presented at: *Symposium on Gambling, Prediction Markets and Public Policy, Nottingham Trent, 2008*; and *The European Conference on Complex Systems, 2008*)
- "Posttext-A Mind for Society" A. Shalit et al.; *Adaptive Agents and Multi-Agents Systems II(2005)*
- Implemented the system described in the "Posttext - A Mind for society" at <http://complexity.huji.ac.il/> - an EU commissioned complexity-science-community mapping and **collaboration tool**, a wiki with a built in real time interactive concept maps.
- A moving Captcha. <http://eppur-si.appspot.com>, a new idea and a web service for **animated captchas. Provisional Patent**

HONORS

2005 M.Sc. Seminar: "*Modeling tinnitus (auditory hallucinations) using an adaptive recurrent network.*" Won "Faculty Day" Poster-contest award **and cash prize**

2002-2004 Ormut Scholarship (**merit** based) for **Neural Computation**

2002 Dean-Intel prize for **Excellent** Academic Achievements

1999-2002 B.Sc. Honors program; **Summa Cum Laude**, GPA: **98.15**

1988-1992 Placed and won several math and physics competitions (some international).

MILITARY SERVICE (Mandatory)

1993 – 1999 Israeli Air-Force, **pilot** and **captain** of cargo aircraft

1992 – 1993 NCO in an elite **Intelligence Corps** program