Antti Halme

CV

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IN BRIEF

I'm a software engineer from Finland, MSc in computer science. I currently work as a developer in the highly quantitative Investment Management Systems team at Orbis Investments, an asset management company. I have an interest in systems design, scalable and robust high performance computing, tools that augment human cognitive capabilities, and more. I'm looking for opportunities to level up and grow. I value organisations that appreciate both people and technology, as well as good processes. I'm looking for a position where I can apply my skills and explore new ideas. I have an interest in peopleware and lead roles.

I can design and build software systems to meet any spec.
I'm pretty good at fixing stuff, too.

EMPLOYMENT

- **Quant Developer** – *Orbis Investment Advisory Ltd.*, full-time, 2014 –

  ○ Software system design and implementation

  ○ Quantitative finance, financial engineering: systems, tools, data; models and analysis

  ○ More technology than business, but wide exposure to everything from accounting to factor models

  ○ I've worked on dozens of projects, maybe a hundred different systems, from legacy maintenance to greenfield prototypes — I regularly work on the whole stack

  ○ I've been with Orbis long enough that my early work has been coming back to bite me

  Sample projects:

  ○ Design and implementation of several portfolio management tools, based on a vague-yet-precise custom workflows, iterated on with stakeholders
    ▪ Holdings, hedging, basic market crash simulation, What If -scenarios for positions and exposures
    ▪ Web-based UI (Angular, TypeScript), C# backing, custom OAuth/IdentityServer authentication
    ▪ Tech and project lead with junior mentoring
  ○ Implementation and maintenance of daily data I/O pipelines, custom task tooling, integrations
    ▪ .NET desktop (WPF, WCF); C#, async and Parallel
  ○ Ownership of a factor back testing tool — core tool for our quant analysts, tight feature iteration loops
    ▪ .NET: much as above, more IObservables and dependency based calculation
    ▪ Upgrades, maintenance, integration, performance and memory optimisation, caching design
  ○ A greenfield web-oriented core asset DB CRUD tool (mappings, etc.)
    ▪ Back: IIS, .NET, Nancy, EntityFramework
    ▪ Front: Angular, Bootstrap, HTML5, NodeJS, and the usual suspects
    ▪ Noteworthy: Success in this led us to begin a large scale move from desktop to web tools
  ○ Design and implementation of a data checking solution
    ▪ Web-based UI, C# backend, plenty of hairy integration work with existing systems
    ▪ Noteworthy: We ended up using my own proposed design over one that was simply given to me to be implemented, when the original was deemed unusable mid-project

  ○ On a daily basis I build scripts and small jobs (standard format C# programs for scheduled data I/O tasks), and fix things in databases and processes

- Integration work with data providers such as Thomson Reuters TQA
- SQL: SQL Server, SSMS, SQL Prompt, opinionated sprocs, execution plans, analyst code optim.
- Legacy tool and service work: Excel Add-In, VB6, SSRS, dusty databases, IE6 era Intranet, …
  - Other
    - Visual Studio, ReSharper, NuGet, TFS, RedGate tools, server failover, backups, PowerShell
    - Interface design, GraphQL, logging in Splunk, basic R scripting, .NET Core

- **Master's thesis worker** – *Dept. of Inf. and Computer Science, Aalto University*, full-time, 2013–2014.
  - *"Cooperative Heuristic Search with Software Agents"*
  - My own research idea in parallel algorithmics. Short paper accepted for presentation at STAIRS-2014.
  - http://users.ics.aalto.fi/ahalme/coop/
  - C++ (with Boost and STL), Java, Python

- **Consulting software developer** – *Reaktor*, full-time, 2013.
  - Forward deployed engineer, summer job.
  - Bug fixing, new features, SW development process improvement
  - My big project was a parallelised testing configuration using cloud servers

- **Research & course assistant**– *ICS, Aalto University*, 2010-2014.
  - Software synth and model checking; distributed robot swarm algorithms; assembly; oper. systems

EDUCATION

- M.Sc. (Tech.) in Computer Science. Aalto University, 2014.
  - **Theoretical computer science**, *Software systems.*
  - 120 ECTS, avg. 4.48/5.0, **grad. with honours**
  - Thesis: Cooperative Heuristic Search with Software Agents
- *B.Sc. (Tech.) in Computer Science. Aalto University, 2012.*
  - **Software technology**, *Theoretical computer science.*
  - 180 ECTS, avg. 4.74/5.0, **grad. with honours**.
- Summer International Honors Program. Stanford University, 2011.
- Several student awards

RELEVANT EXPERIENCE

Professional **Windows** development on **C#** for the **.NET** platform. **Web** stuff in TypeScript, from AngularJS to modern Angular, SCSS, HTML5, with NodeJS and the usual suspects. **SQL Server** and a bit of PostgreSQL, too. In the distant past C++, Java, Scala. Fan of functional languages (Haskell, Ocaml, F#). I've written plenty of C back in the day, some personal projects in **Python** and experiments in a bunch of languages. I can handle **shell scripts**, **build systems**, **IDEs**, **DVCS** and all kinds of **debug and perf** tools. I've played with **cloud and big data setups** and have a soft spot for GPGPU and other **high performance computing**. Dabbling in **machine learning**. I used to have some familiarity with POSIX APIs and I'm not afraid to go even lower. In ancient times I did simulations in Matlab and Simulink, and knew a whole bunch of system modelling languages and formal verification theory. I'm happy with unit tests and **ATDD**, **CI** and other **agile practices**. I run **Linux** boxes at home.

INTERESTS

- *Tools* – Bret Victor's work on Seeing Spaces, smart search, automation, applications of machine learning
- *Tech* – scalable parallel & distributed systems, high performance computing, interface and API design, declarative and array programming, modular and lean web applications

LANGUAGES

Finnish (native), English (full professional), Swedish (limited professional), French (elementary)

OTHER

Reserve NCO, Corporal. Lapland Air Defence Regiment, Finnish Defence Forces.
Master blender, 1st prize. Unofficial Chivas whiskey blending competition.