

# My awesome journey with Open Source

Adam Sitnik

# About myself



Software Engineer on the .NET Team

- Maintainer
  - <https://github.com/dotnet/BenchmarkDotNet>
  - <https://github.com/adamsitnik/awesome-dot-net-performance>
- Contributor
  - <https://github.com/dotnet/performance>
  - <https://github.com/dotnet/corefx>
  - <https://github.com/dotnet/coreclr>
  - <https://github.com/dotnet/corefxlab>
  - <https://github.com/microsoft/perfview>
  - <https://github.com/dotnet/spark>
  - <https://github.com/irmen/Pyrolite>
  - <https://github.com/dotnet/machinelearning>
  - <https://github.com/dotnet/diagnostics>
- <https://github.com/workhorsy/py-cpuinfo>
- <https://github.com/exceptionless/Exceptionless.Net>
- <https://github.com/SixLabors/ImageSharp>
- <https://github.com/mgravell/protobuf-net>
- <https://github.com/aspnet/SignalR-Server>
- <https://github.com/autofac/Autofac>
- <https://github.com/ServiceStack/ServiceStack.Redis>
- <https://github.com/Microsoft/clrmd>
- <https://github.com/goldshtn/msos>
- <https://github.com/dotnet/orleans>



**BenchmarkDotNet**  
Powerful .NET library for benchmarking

# The History of Open Source

**You can make your own history!**

# Open your eyes!



Adam Sitnik @SitnikAdam · 23.07.2015



to me this was an eye-opening post

**.NET/FRINGE/** @dotnetfringe

This post also explains why, even though Microsoft is hard core OSS these days, they're still not very present [bit.ly/1gQCnGU](http://bit.ly/1gQCnGU)

# What small startup did for .NET OSS to develop a single app?

- Added full CQL3 collisions support to FluentCasandra
- Invented **Helios**, a high performance **server-side socket** library
- **Ported Akka to .NET**
- Implemented Marmur3 and HyperLogLog algorithms in C#

Are you using any OSS?

A word cloud of OSS libraries. The words are arranged in a roughly triangular shape, with 'xUnit' at the top left and 'NLog' at the bottom right. The colors of the words are: xUnit (blue), Serilog (light blue), Dapper (green), Autofac (green), JSON.NET (blue), NHibernate (light blue), Quartz.NET (light blue), Ninject (green), SignalR (green), and NLog (purple).

# Have you ever...

- Maintained OSS project?
- Implemented a new feature?
- Fixed a bug?
- Improved the performance?
- Improved the docs?
- Reported a bug? with a nice repro case?
- Or maybe introduced a bug ?

# At this point of time

- I was anonymous .NET developer
- I knew I wanted to contribute to make a difference
- I had no idea how to start
- I did not know any contributors
- I wasn't even dreaming about speaking at the Big Conferences...
- Not to speak about drinking a beer with my Gurus!
- Or working on the .NET Team!



# When your Guru starts a new project..



Joe Duffy @xjoeduffyx · 15.07.2015



Slice: a type for dealing with buffers inspired by building systems in C#. [github.com/joeduffy/slice](https://github.com/joeduffy/slice)... A work in progress but the gist is there.

🌐 Przetłumacz z języka: angielski



[joeduffy/slice.net](https://github.com/joeduffy/slice.net)

slice.net - A simple C# type for working with contiguous buffers.

[github.com](https://github.com)



# My first contribution: what it was

- Build the benchmark in the Release mode
- Perform the Jit Warmup
- Cleanup the memory after every iteration
- One micro optimization

# Follow the coding standards (CONTRIBUTING.md)



joeduffy commented on `src/Slice.cs` in `a97bb49` on 19 Jul 2015

Style nitpick, indentation looks off; maybe a tabs vs. spaces issue?



joeduffy commented on `src/Slice.cs` in `a97bb49` on 19 Jul 2015

Style nitpick, errant spaces.

**You can get a code review from your Guru!!!**

# Choose the right Project

- Look for something that excites you!
- Prefer tools that you are familiar with
- Make sure they are looking for help!
- Make sure it's active!
- Make sure you are ok with the license!

# How to grab an issue?

Filters  Labels Milestones

Clear current search query, filters, and sorts

15 Open  0 Closed Author Labels Mile

Simple API for path customization of Benchmark **up-for-grabs**  **up-for-grabs**  
#377 opened 18 days ago by AndreyAkinshin

[Minor bug] Benchmark switcher: incorrect me  **bug**  
#365 opened 28 days ago by ig-sinicyn v0.10.x

Benchmark just stops (Antivirus problem)  **bug**  
#364 opened 28 days ago by Konklaw

Filter by label

Unlabeled

up-for-grabs

# Part of a daily job routine

## **Found a bug in OSS library?**

- Report it!
- **Provide a repro case!**
- Is it blocking your job?
- If so, can you fix it?

## **Need new feature?**

- The existing code base saved your company a LOT of time.
- So why don't you extend it?

**Just do it!**

Don't give up!



Ben Adams contributions to Kestrel HTTP Server (as of 2017-10-01 18:01)



5



113



122

Use the tools that are free for the Contributors



Travis CI





# Believe in yourself

- How do you know if you are good or not?
- Would you like to change job?
- Fork a project
- Pick up an issue
- Just solve it!

# You get invited to speak at Conferences



Adam Sitnik <adam.sitnik@gmail.com>

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## You have been selected to speak at NDC Oslo 2017

2 messages

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**NDC Oslo** <info@ndcoslo.com>  
Reply-To: NDC Oslo <info@ndcoslo.com>

2 March 2017 at 16:26

Yes, You still get rejected ;)

# Pair programming with the best



cesarbs on 28 Jan Member

@adamsitnik Would be glad to collaborate with you to get this more generalized and into BenchmarkDotNet 😊



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adamsitnik on 28 Jan

This week I am in Redmond for the MS LEAP, so we can even meet in person and talk about it ;) btw were you able to run this auto-generated dll? When I tried similar approach (to execute



cesarbs on 30 Jan • edited Member

Awesome! I'll send you an email so we can arrange when and where to meet.

# Getting the write access to your favorite tool



Adam Sitnik <adam.sitnik@gmail.com>

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## AndreyAkinshin added you to BenchmarkDotNet

1 message

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**Andrey Akinshin** <noreply@github.com>  
To: Adam Sitnik <adam.sitnik@gmail.com>

20 January 2016 at 11:22

You can now push to this repository.

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View it on GitHub:

<https://github.com/PerfDotNet/BenchmarkDotNet>


# When Guru use the feature you implemented

**DOTNEXT** Москва  
9 декабря

DotNext Moscow 2016 #dotnext | @goldshn <https://s.sashag.net/dnmoscow2>

## Vectorization: strstr

	Method	Mean Time
<i>// Simple, no-frills approach:</i> return haystack.Contains(needle);	Scalar	1,872.2798
<i>// Vectorized version:</i> __m256i first = _mm256_set1_epi8(needle[0]); __m256i last = _mm256_set1_epi8(needle[ns-1]); for (int i = 0; i < hs; i += 32) { __m256i block_first = _mm256_loadu_si256(&haystack + i); __m256i block_last = _mm256_loadu_si256(&haystack + i + ns - 1); __m256i eq_first = _mm256_cmpeq_epi8(first, block_first); __m256i eq_last = _mm256_cmpeq_epi8(last, block_last); unsigned mask = _mm256_movemask_epi8(_mm256_and_si256(eq_first, eq_last)); while (mask != 0) { ... memcmp(haystack + i + first_bit_set_pos + 1, ... ) }	SIMD	202.1229



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**DOTNEXT**



# Make friends!



# Summary

- Plan minimum: report well described bugs.
- Contribute to something exciting at least once.
- Contributing should be a part of your daily job routine.
- Everybody gets rejected, so will you.
- You can benefit a LOT!
- You can sky rocket your experience and knowledge!
- You are not going to get paid for it.

# Sources

- [The Profound Weakness of the .NET OSS Ecosystem](#)
- [Free Services & Tools for Open Source .NET Projects](#)
- [All Pull Requests by Ben Adams to Kestrel](#)
- [What it feels like to be an open-source maintainer](#)
- [up-for-grabs.net](#)



# Questions?

[Adam.Sitnik@microsoft.com](mailto:Adam.Sitnik@microsoft.com)

Thank You!