C++ Club UK

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mdspan

- Implementation https://github.com/kokkos/mdspan (BSD 3-Clause)
  - Intro https://github.com/kokkos/mdspan/wiki/A-Gentle-Introduction-to-mdspan
  - r/cpp https://www.reddit.com/r/cpp/comments/cl127i/mdspan_productionquality_reference_implementation/
- Kokkos https://github.com/kokkos/kokkos
- Multi-dimensional strided array views in Magnum https://blog.magnum.graphics/backstage/multidimensional-strided-array-views/
- P0009R9 **mdspan**: A Non-Owning Multidimensional Array Reference http://wg21.link/p0009r9
- CppCast with Bryce Adelstein Lelbach https://cppcast.com/bryce-lelbach-mdspan/

Reddit

- PyTorch https://pytorch.org/features -- has a pure C++ front end https://pytorch.org/cppdocs/
- TensorFlow for C++ https://www.tensorflow.org/api_docs/cc
- Shogun https://www.shogun.ml/

https://devblogs.microsoft.com/oldnewthing/20190830-00/?p=102823

- Reddit

Introducing Magnum Python Bindings

https://blog.magnum.graphics/announcements/introducing-python-bindings/

https://github.com/pybind/pybind11

Are there any memory safety libraries for C++?

https://www.reddit.com/r/cpp/comments/d0hguz/are_there_any_memory_safety_libraries_for_c/

https://github.com/duneroadrunner/SaferCPlusPlus/

https://github.com/deplinenoise/ig-memtrace

> *MemTrace is a memory debugging tool developed internally at Insomniac Games.*

https://github.com/ivmai/bdwgc

> *The Boehm-Demers-Weiser conservative C/C++ Garbage Collector (libgc, bdwgc, boehm-gc) https://www.hboehm.info/gc/*

AnyDuck : A Value Type Erased Type

Steve Downey: https://www.sdowney.org/2019/07/anyduck-a-value-type-erased-type/

Tony Van Eerd @tvaneerd

```
try {
  return vec.at(index);
}
catch (std::out_of_range const &) {
  return -1;
}
```

I just saw this in a code review and was going to claim it inefficient, but darn @CompileExplore proved me wrong again. (IIRAC*) All compilers turn it into an if check on the bounds.

*Read ASM

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