Bhushan Sonawane
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Links

LinkedIn/bhushansonawane **GitHub**/bhushan23

Education

- **SUNY StonyBrook University** — StonyBrook, NY
  Master of Science in Computer Science, Intelligent Systems — *Aug 2017 - Dec 2018*
- **Vishwakarma Institute of Technology** — Pune, India
  Bachelor of Technology in Computer Engineering; GPA: 9.27/10.0 — *Aug 2011 – May 2015*

Experience

- **Nvidia** — Pune, India
  System Software Engineer, Compiler — *Jun 2015 - Jul 2017*
  - **Compile time and memory infrastructure**: Profiling infrastructure; Helps finding high compile time issues on tegra(GL) and DX content; Actively used across driver and compiler teams for tegra content analysis; Helped finding deprecated heuristics in register allocator and phases within scheduler.
  - **Early copy propagation**: Implemented for Nintendo Switch; Improved Nintendo developers compile time from an hour to few minutes.
  - **Assembler**: Implemented DWARF 2.0 compliant debug frame support for CUDA 9.0;
  - **Misc**: Implemented/Enhanced various peephole optimizations; Multiple interface and heuristic changes.
- **Nvidia** — Pune, India
  Intern, Compiler — *Jun 2014 - Apr 2015*
  - **Register Allocator**: Implemented Partitioned Boolean Quadratic Problem based register allocator for Nvidia compiler; 98% of existing tests improved; Slides: http://slides.com/bhushansonawane/deck/
  - **LLVM**: Implemented optimization passes in LLVM.
  - **DFA**: Worked on data flow analysis problems.
- **Vishwakarma Institute of Technology** — Pune, India
  Visiting Instructor — *Jan 2017 - May 2017*
  - **Course**: Third year undergraduate course 'Problem solving and programming'

Projects

- **Smart Energy**: Applying deep learning techniques to monitor and predict energy consumption; Use the prediction to save energy consumption.
- **Patient tracking and reporting**: Automatic appointment scheduling and managing; Interfacing through text and web-app(Grails); Under collaboration of SUNY Binghamton and VIT Pune.
- **Antivirus**: Implemented MD5 algorithm to detect malicious, duplicate and comprised files.
- **GroupPlay**: Synchronize all devices for audio playback over wifi.

Programming Skills

- **Languages**: C++, C, Python, Java, Groovy
- **Libraries**: Tensorflow, scikit-learn
- **Technologies**: Django, Grails, Android, Database, GCov, Coverity

Awards

- **Project**: PBQP based register allocator project secured second place at 'Prakalp: Intra-Department project competition'.