

Vignesh Nanda Kumar

CONTACT INFORMATION	Email: vigneshnandakumar1997@gmail.com LinkedIn: Vignesh Nanda Kumar	Phone: +91-9999491454
EDUCATION	B.E. (Hons.) Computer Science , Birla Institute of Technology and Science, Pilani CGPA: 9.98/10.00 — Silver Medalist of 2019 batch	<i>Aug '15 - Jun '19</i>
PROFESSIONAL EXPERIENCE	AI Labs, American Express (Amex) <i>AI Researcher 1</i> Improvement of XGBoost Distributed Algorithm (Optimal weighting scheme) <ul style="list-style-type: none">Researched on Weighted Quantile Sketch algorithm to compare errors in split points found by different Split Point Proposal algorithms and found scope for optimizing the weighting scheme used in the distributed algorithm. Development of a Universal Search Pipeline <ul style="list-style-type: none">Developed an end-to-end system that enables context-aware search for enterprise-wide unstructured information retrieval with internal user tests showing 73% of the queries answered in the top 10 results. Development of features for AXGBoost (4 releases till date) <ul style="list-style-type: none">Worked on optimizing the distributed algorithm code base from a 2400+ lines code to <500 lines and providing GPU support for the new version of AXGBoost (Amex XGBoost) in C++ (has been used in building 10,000+ models).	Bengaluru, India <i>Jul '19 - Present</i> <i>May '20 - Present</i> <i>Sep '19 - Aug '20</i> <i>Jul '19 - Present</i>
INTERNSHIPS	AI Labs, American Express (Amex) <i>Research Intern</i> <ul style="list-style-type: none">Researched and improved the Approximate Split Point Proposal Algorithm used in distributed AXGBoost, which improved the capture rate on Amex datasets by 4%. Goldman Sachs <i>Summer Analyst</i> <ul style="list-style-type: none">Developed a generic parallel email scanner which enables easy access to conversations that happened for a deal, using Java Spring Framework and Microsoft Exchange Services. Gnowledge Lab, Homi Bhabha Centre for Science Education (HBCSE) <i>Summer Intern</i> <ul style="list-style-type: none">Developed a feature-rich offline search engine using Django for a digital learning platform (CLIX) to enable quick content access in schools with no internet connectivity (deployed in 500 government schools).	Bengaluru, India <i>Jan '19 - Jun '19</i> Bengaluru, India <i>May '18 - Jul '18</i> Mumbai, India <i>May '17 - Jul '17</i>
RESEARCH PROJECT	Parallelization of K-Medoids Clustering Algorithm Advisor: <i>Prof. Poonam Goyal</i> <ul style="list-style-type: none">Developed a parallel K-Medoids algorithm using Adaptive Gridding in Java Spark, which improved the algorithm's efficiency of selecting initial medoids (improved 10x) without compromising on the clustering error.	BITS Pilani, India <i>Jan '18 - Dec '18</i>
COURSE PROJECTS	<ul style="list-style-type: none">Compared existing techniques for Kinship Verification and designed an ensemble of Metric Learning based CNN architecture, which improved the accuracy on KinFaceW datasets by 3% .Created a Bayesian Belief Network based on grades of students for assessing teaching pedagogies by modelling natural language queries as conditional probabilities.Designed a parallel algorithm using Foster's Design methodology having logarithmic speedup compared to sequential algorithm which facilitates joining and leaving of peers in a peer-to-peer network.Designed a parallel algorithm for word document index creation using OpenMP in C++ for a file system with 200k files; reduced index creation time from 43 seconds on 1 CPU core to 9 seconds on 32 CPU cores.	<i>Nov '18 - Dec '18</i> <i>Sep '18 - Oct '18</i> <i>Apr '18 - May '18</i> <i>Jan '18 - Feb '18</i>
POSITIONS OF RESPONSIBILITY	<ul style="list-style-type: none">Core member, Organizing Committee, American Express: Organized colleague engagement activities at Internal monthly meets.Teaching Assistant, Discrete Structures for Computer Science (<i>Aug '18 - Dec '18</i>), Database Systems (<i>Jan '18 - May '18</i>) and Object-Oriented Programming (<i>Jan '17 - May '17</i>), BITS Pilani.	<i>Oct '19 - Present</i>
TECHNICAL SKILLS	C, C++, Java, Python, R, Scala, Scheme, MPI, OpenMP, Apache Spark, Django	
CERTIFICATIONS	<ul style="list-style-type: none">Mining Massive Datasets, offered by Stanford Online, eDXCUDA Programming Masterclass, UdemyFunctional Programming Principles in Scala, EPFL, Coursera	<i>May '20</i> <i>Apr '20</i> <i>Nov '18</i>
AWARDS AND SCHOLARSHIPS	<ul style="list-style-type: none">BITS Merit Scholar: Received 80% Scholarship for being in the top 1% in all semesters.Awarded Commendation Letter from HRD Minister for being among the top 0.1% in CBSE 12th Boards.Awarded Level 1 from Trinity College in Grade 2 Examination in Electronic Keyboard Performance.	<i>Aug '15 - Jun '19</i> <i>Jun '15</i> <i>Mar '12</i>
EXTRA CURRICULAR ACTIVITIES	<ul style="list-style-type: none">Google AI Summer School HCI+AI for Social Good Track: among the 50 students selected for the school.Planted tree saplings as part of a Tree Plantation Drive by American Express.Volunteered to teach underprivileged kids at an NGO as part of Community TeamWorks(Goldman Sachs).	<i>Aug '20</i> <i>Aug '19</i> <i>Jun '18</i>